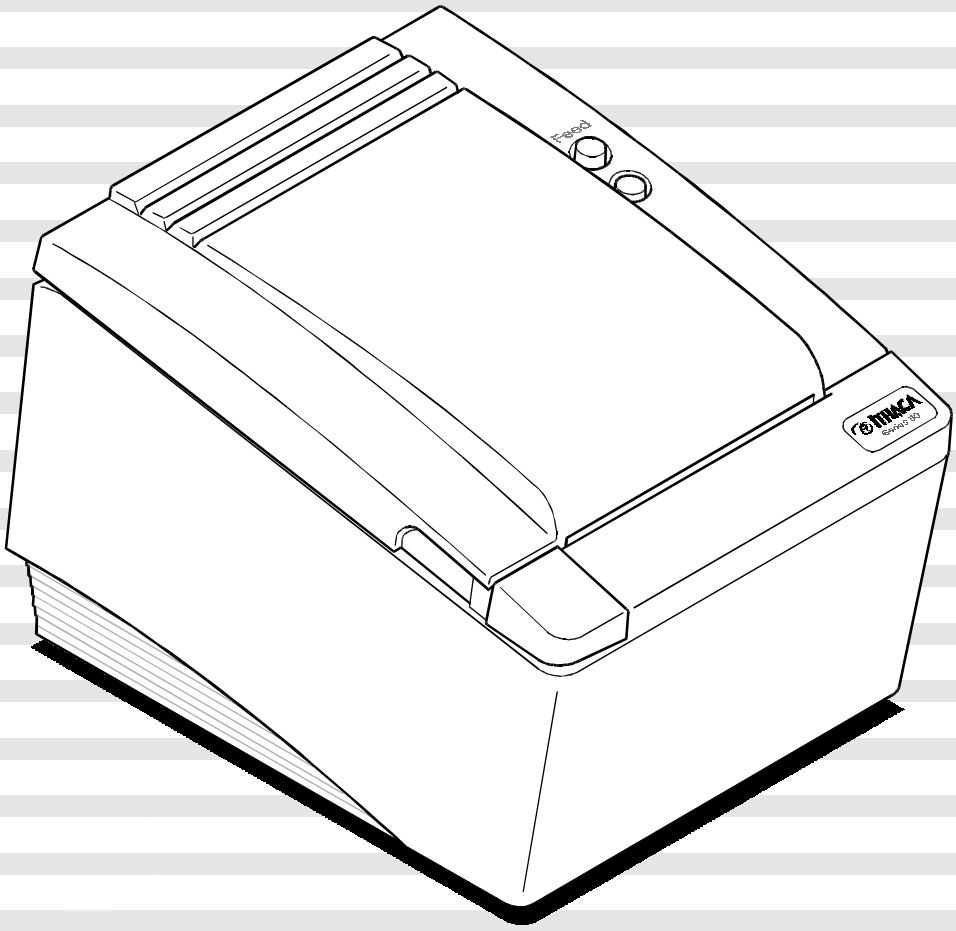
PcOS SERIES 80

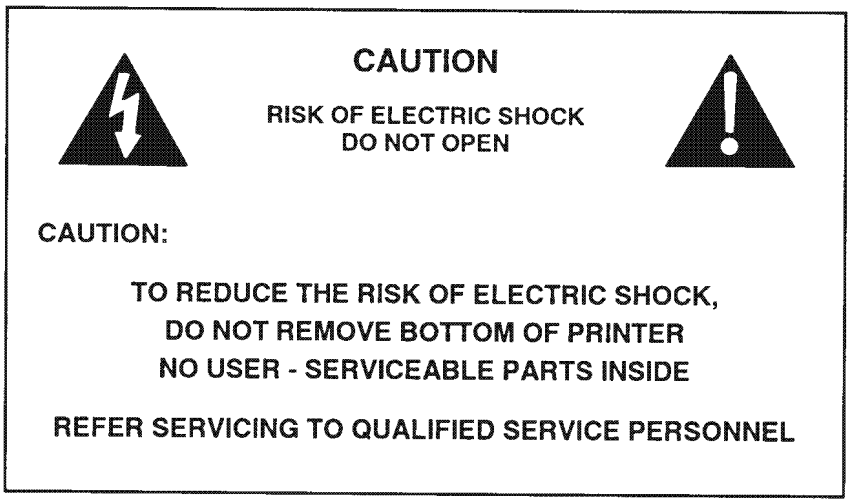
MAINTENANCE MANUAL



ITHACA®

ITHACA PERIPHERALS
A Transact Technologies Incoporated Company

Back of cover do not print


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE BOTTOM OF PRINTER
NO USER - SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

WARNING: To prevent fire or shock hazard, do not expose this printer to rain or moisture.

Disclaimer

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Ithaca Peripherals cannot guarantee that changes in software and equipment made by other manufacturers, and referred to in this publication, do not affect the applicability of the information in this publication.

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Ithaca, New York USA
Printed in USA

Revision A, September 1997

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ITHACA®

Federal Communications Commission Radio Frequency Interference Statement

This equipment complies with the limits for a Class A computing device in accordance with the specifications in Part 15 of FCC rules which are designed to minimize radio frequency interference in the installation; however, there is no guarantee that radio or television interference will not occur in any particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on while the radio or television is on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the radio or television receiving antenna;
- Relocate the printer with respect to the receiver;
- Move the printer away from the receiver;
- Plug the printer into a different outlet so that the printer and the receiver are on different circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: *How to Identify and Resolve Radio/TV Interference Problems*.

This booklet is available from the US Government Printing Office, Washington, DC 20402. Order stock number 004-000-00345-4.

Canadian Department of Communications Radio Interference Statement

This Ithaca Peripherals apparatus does not exceed Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

UL, CSA, VDE, CE Statement

Ithaca Peripherals printers are UL & CSA Listed, VDE Certified, and carry the CE Mark.

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PRODUCT INFORMATION

WHAT IS IN THIS BOOK?

WHO IS IT FOR?

This book is a maintenance guide intended for trained technicians who service this printer.

WHAT DOES IT COVER?

Of course, this book only covers the Series 80 Printer, not the entire point-of-sale system, but it will tell you all you need to know about maintaining and servicing the printer properly. You will find out how to clean, test, and disassemble the printer.

This book also provides some general and technical information about the printer, so you'll know what the features are, how reliable it is, and what its printing capabilities are.

WHERE CAN YOU FIND MORE INFORMATION?

A *Programming Guide* is available if you need to know how to program a point-of-sale terminal or a PC to work with the printer. It describes all the commands the printer recognizes to perform its functions.

An *Operator's Guide* is also available and is for new and experienced operators. It covers setting up and using the Series 80 Printer with any point-of-sales system.

For information about ordering these books, refer to the next section.

CONTACTING ITHACA PERIPHERALS

Contact your dealer first for general information about the Series 80 Printer and how it works with your system. If you need more specific information about the printer, you may contact Ithaca Peripherals directly.

The Sales Department and the Technical Support Department will be able to help you with most of your questions.

Contact the Technical Support Department to receive technical support, to order documentation, and to receive additional information about the Series 80 Printer. To order supplies, or to receive information about other products by Ithaca Peripherals, contact the Sales Department.

Contact the Technical Support Department if you would like information about your warranty, or if you need to send a printer in for service.

You can contact both the Sales department and the Technical Support Department at the following address and phone or fax numbers:

Ithaca Peripherals
20 Bomax Drive
Ithaca, NY 14850
USA

Main phone:	(607) 257-8901
Main fax:	(607) 257-8922
Sales/ Technical Support fax:	(607) 257-3911

WARRANTY INFORMATION

OPTIONS

All Ithaca Peripherals (Ithaca) PcOS Series 80 Printers come with a standard 12 month warranty covering both parts and labor. An optional warranty, covering both parts and labor for 24 months, may be purchased separately.

For more information concerning the warranty options, please contact your dealer or the Sales department at Ithaca Peripherals. See “Contacting Ithaca Peripherals” on page 2 for the address and phone numbers for Ithaca Peripherals.

SERVICE INFORMATION

If you need a printer serviced, whether it's under warranty or not, call your dealer. You may have several options for service depending on the contract you have. Your dealer may service the printer directly or have a service agreement with a local service contractor.

If your dealer instructs you to send the printer to Ithaca Peripherals for service, or if you bought the printer directly from Ithaca Peripherals, call Technical Support at (607) 257-8901 and ask for a return authorization. Please have the model number and serial number of the printer available. The numbers are on a decal located on the bottom of the printer.

You will need to re-pack the printer and ship it directly to Ithaca Peripherals. Be sure to keep all the packing materials and the box. Please refer to “Unpacking the Printer” in the *Operator’s Guide*.

ORDERING SUPPLIES

You may order supplies by calling Ithaca Peripherals or by faxing the order form that was shipped in the box with the printer. If you'd like more forms, just call Ithaca Peripherals.

- Call (607) 257-8901 and ask for the Sales Department
- Fax the order form to (607) 257-3868

You can order the following items:

- Paper
- Cables

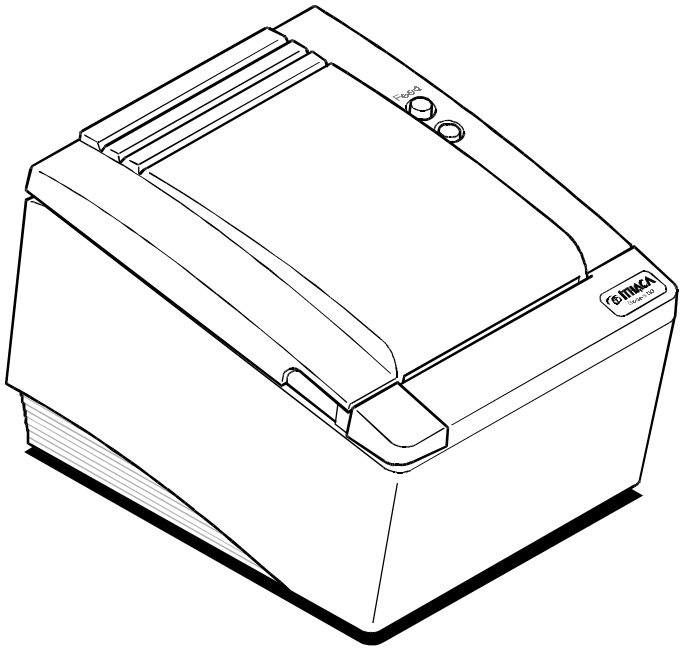
PAPER

Paper	Type	Dimensions	Stock Number
Receipt Paper	Thermal	3.15 inches (Width) 4.0 inches (Diameter) 420 feet (Length)	100-9109

CABLES

Cables	Stock Number
110V Power Cable	06-0561
220V Power Cable	06-0806
Parallel Communication Cable 25 Pin Male to 25 Pin Male	 253-9800007
Serial Communication Cable PC, 9-Pin Female to 9-Pin Female PC, 9-Pin Female to 25-Pin Female	 10-2020 10-2021

DESCRIPTION OF THE SERIES 80 PRINTER



The PcOS (personal computer, point-of-sale) Series 80 Printer is a stand-alone, 40-column, thermal printer. The Series 80 Printer performs high speed receipt printing in a point-of-sale environment and is available in the following models:

- Model 82
- Model 82PLUS

SERIES 80 MODELS

Both the Model 82 and the Model 82PLUS have similar features with the Model 82PLUS providing faster graphics printing.

PcOS Model 82 Thermal Receipt Printer

The Model 82 is a thermal receipt printer used for application requiring high speed printing of receipts and quiet operation.

- 24 lines per second of text at 6 lines per inch
- 32 lines per second of text at 8 lines per inch
- 2 -- 4 inches per second of graphics
- 48 watt power supply

PcOS Model 82PLUS Thermal Receipt Printer

The Model 82PLUS is a thermal receipt printer used for application requiring high speed extensive graphics printing.

- 24 lines per second of text at 6 lines per inch
- 32 lines per second of text at 8 lines per inch
- 4 inches per second of graphics
- 72 watt power supply

STANDARD FEATURES

The following features and items are standard on all Series 80 printers:

- 44-column printing at 15.6 characters per inch
- 4.0 inch diameter thermal paper roll (420 feet per roll)
- Automatic Cutter (partial cut)
- Easy paper load
- High resolution graphics capability (8 dots per mm.)
- RS232C Serial Interface with 8K buffer
- Configurable receive and image buffer areas
- Paper Out sensor
- Operator controlled self-test
- Dual cash drawer connectors (RJ12) and drivers (24V, 1.5 amp pulse for approximately 150 ms; drawer open/closed status reporting)
- Characters and Graphics
  - Print Speed- 100 mm. (4.0 inches) per second - text
  - Paper slew speed- 100 mm. (4.0 inches) per second
  - Wide print Zone- 72 mm. (2.83 inches)
  - 8 dots per mm. (203 DPI) Horizontal and Vertical
- Reverse Video, and Rotated on the same line

OPTIONAL FEATURES

The optional features either replace a standard feature or enhance the operation of the printer. All optional features are installed at the factory and must be selected when the printer is ordered.

- IEEE 1284 Bi-Directional Parallel (Optional)
- RS-422 Serial communications interface (Optional)
- Custom colors and logo

TECHNICAL SPECIFICATIONS

PRINTING SPECIFICATIONS

- Printing method: Direct Thermal
- Print zone: 72 mm. (2.83 in.) wide

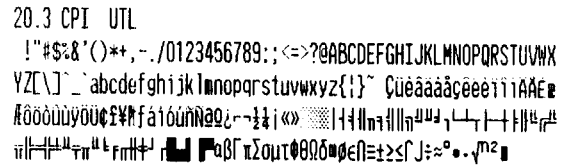
PRINT CHARACTERISTICS

The Series 80 Printer prints characters in a variety of pitches as shown in the following table and print samples. All pitches are scaleable up to 64 times as large as the standard size.

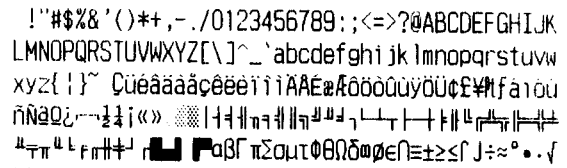
For information about programming the printer to print a particular pitch or style, please refer to the *Programmer's Guide*. You can order the *Programmer's Guide* from Ithaca Peripherals. See "Contacting Ithaca Peripherals" on page 2.

Pitch (Characters per Inch)	Maximum Characters per Line
15.6 CPI	44
20.3 CPI	57

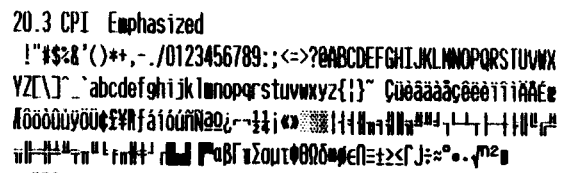
20.3 CPI UTL



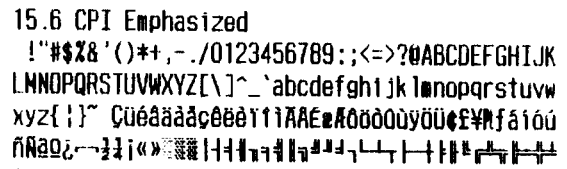
15.6 CPI UTL

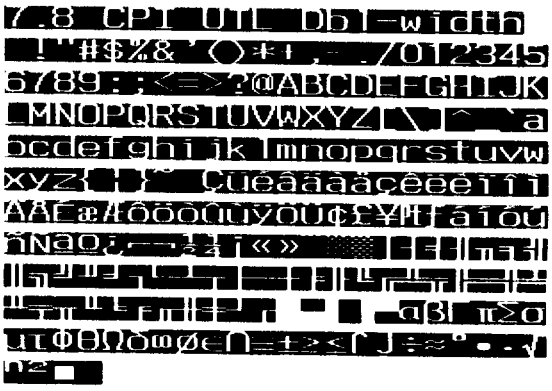


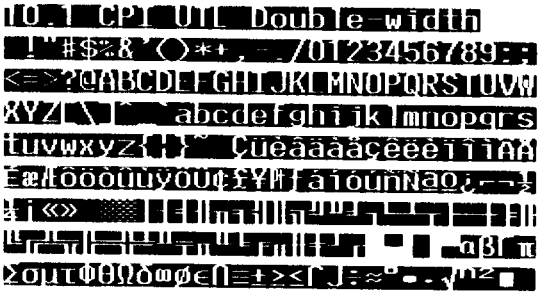
20.3 CPI Emphasized



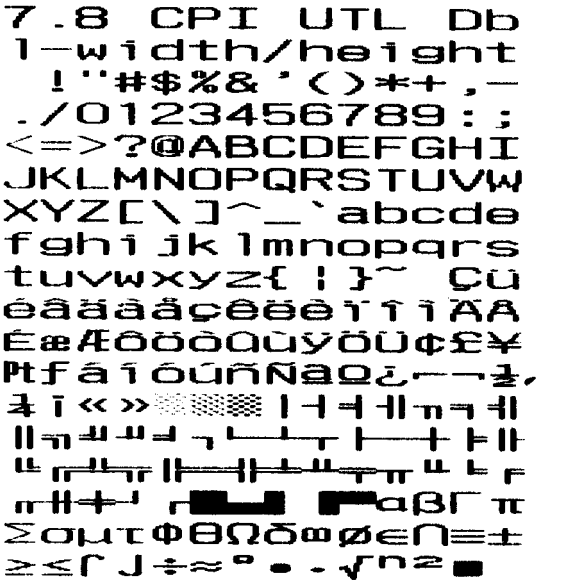
15.6 CPI Emphasized



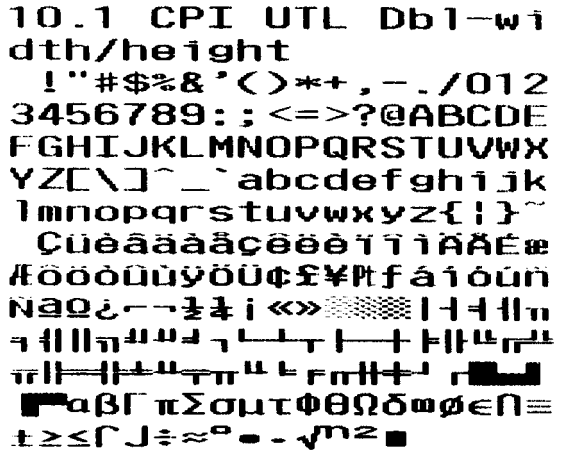




7.8 CPI UTL Db1-width/height



10.1 CPI UTL Db1-width/height



RELIABILITY

- Mean Time between failure: 46,800 hours @ 12.5% Ratio
- Mean Cycles between Failure: 16,000,000 Print Lines
- Mean time to repair: 15 minutes
- Cutter: 1,000,000 Cut Life

DIMENSIONS

- Width: 6.0 inches
- Length: 8.5 inches
- Height: 5.6 inches

WEIGHT

- Approximate weight: 4 pounds
- Approximate shipping weight: 10 pounds

POWER REQUIREMENTS

The Model 80 is designed to be AC powered in domestic and international markets. The printer is equipped with an external universal input power supply that is designed to operate world wide without modification.

Model	Supply Voltage Rating (VAC)	Supply Voltage Range (VAC)	Frequency (HZ)	Rated Power (watts)	Current (Amps) Idle	Current (Amps) Printing
82	100 - 240	90 - 264	47 - 63	60	0.08 @ 120VAC 0.04 @ 240VAC	0.9 @ 120VAC 0.4 @ 240VAC
82PLUS	100 - 240	90 - 264	47 - 63	72	0.08 @ 120VAC 0.04 @ 240VAC	0.9 @ 120VAC 0.4 @ 240VAC

ENVIRONMENTAL CONDITIONS

The printer will run at its best when stored and operated in an environment that meets the following temperature and humidity conditions:

- Operating temperature: 0° to 40°C (32° to 104°F)

- Storage temperature: -10° to +60°C (-14° to +140°F)
- Operating relative humidity: 10% to 90% (non-condensing)
- Storage relative humidity: 5% to 90%

COMMUNICATION INTERFACES AND CASH DRAWER CONNECTORS

SERIAL CABLE

Cable Requirements

The PcOS Series 80 Printer standard configuration requires an RS-232C shielded cable, no more than 50 feet long. The cable must be UL and CSA approved.

RS-232C Communication

The RS-232C interface uses the following protocol and communication characteristics:

- Up to 19.2K Baud
- Up to 8K Buffer
- Ready/Busy or XON/XOFF Protocol
- Communications Diagnostic Mode

Pin Assignments for 9-pin Printer Connector

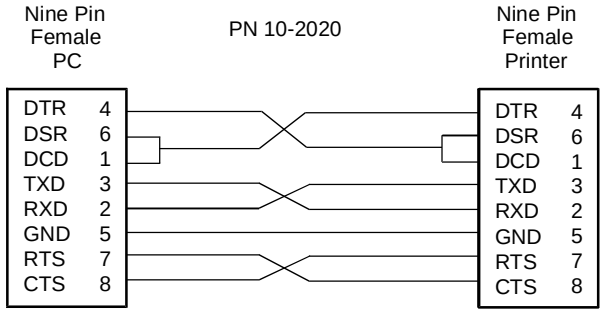
Pin	Name	Description
Pin 1	DCD	Data Carrier Detect
Pin 2	RX	Receive Data
Pin 3	TX	Transmit Data
Pin 4	DTR	Data Terminal Ready
Pin 5	GND	Signal Ground
Pin 6	DSR	Data Set Ready
Pin 7	RTS	Request To Send
Pin 8	CTS	Clear To Send
Pin 9	SSD	Secondary Data

Serial Cable Configurations

The following cable configurations are for different host requirements.

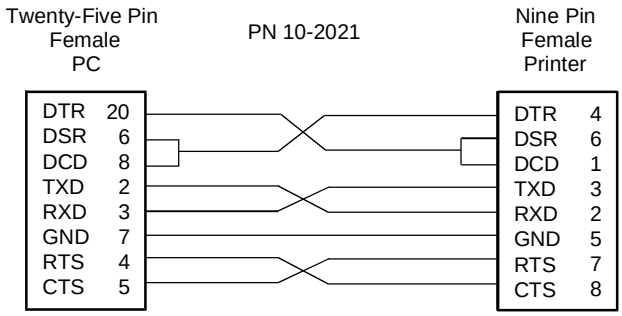
Serial PC to Series 80 (Null Modem)

Ithaca Peripherals part number: 10-2020 9-pin to 9-pin female. Use this cable for PcOS Series 80 printers connected to PC's or PS/2's with 9-pin serial ports.



Serial AT to Series 80 (Null Modem)

Ithaca Peripherals part number: 10-2021. Use this cable for PcOS Series 80 printers connected to PC's or PS/2's with 25-pin serial ports.



PARALLEL CABLE

Cable Requirements

The PcOS Series 80 Printer parallel option requires a 25-pin male D-Shell connector at the printer. To connect the printer to most PC's use Ithaca Peripherals part number: 253-9800007 25-pin male to 25-pin male parallel interconnect cable.

Pin Assignments

Pin	Signal	Description	Direction
Pin 1	STROBE	Clock Data to printer	Host to Printer
Pin 2-9	D0 - D7	Data	Host to Printer
Pin 10	ACK\	Printer Accepted Data	Printer to Host
Pin 11	BUSY	Printer is Busy	Printer to Host
Pin 12	PE	Paper Out / Status	Printer to Host
Pin 13	SLCT	Printer Selected	Printer to Host
Pin 14	AUTOFD	Auto feed paper	Host to Printer
Pin 15	ERR\	Printer Error	Printer to Host
Pin 16	INIT\	Initialize the Printer	Host to Printer
Pin 17	SLIN	Select Printer	Host to Printer
Pin 18-25	GND	Ground	

CASH DRAWER PIN ASSIGNMENTS

Adapters are available for connecting cash drawers equipped with BNC style connectors (the standard is a modular, telephone style connector). Optional cash drawer connections to emulate Axiohm® or Epson® must be ordered with the printer.

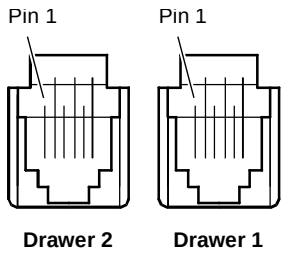
Contact the Customer Service department at Ithaca Peripherals for an adapter. See "Contacting Ithaca Peripherals" on page 2.

Ithaca

Function	Drawer 1	Drawer 2
Drawer Drive +	Pin 4	Pin 4
Drawer Drive -	Pin 5	Pin 1
Status Signal	Pin 2	Pin 2
Status Ground	Pin 3	Pin 3
Frame Ground	Pin 6	Pin 6

Epson®/Axiohm®

Function	Drawer 1	Drawer 2
Drawer Drive +	Pin 4	Pin 4
Drawer Drive -	Pin 2	Pin 5
Status Signal	Pin 3	Pin 3
Status Ground	Pin 6	Pin 6
Frame Ground	Pin 1	Pin 1



Caution: DO NOT connect a telephone line to the cash drawer connector, otherwise the printer and telephone line may be damaged.

CLEANING AND ADJUSTMENTS

CLEANING THE PRINTER

Cleaning the printer occasionally and keeping it well maintained will help it to last longer and run better.

Remove paper dust periodically by using a vacuum cleaner or air compressor.

Caution: Do not use rubbing alcohol or petroleum-based chemicals to clean the printer as these will damage the plastic parts Take special care not to get any cleaner on the electronic components.

None of the internal parts of the printer require lubrication or routine maintenance. Apply a common cleaner such as fantastik® or Formula 409® to a damp cloth and gently wipe the surface of the printer.

CLEANING THE THERMAL PRINTHEAD

Under normal conditions the thermal printhead does not need cleaning.

If the print characters are not printing correctly, wipe the thermal printhead with alcohol and a lint free cloth.

Caution: Do not get any alcohol on any of the other parts of the printer mechanism or the cabinetry.

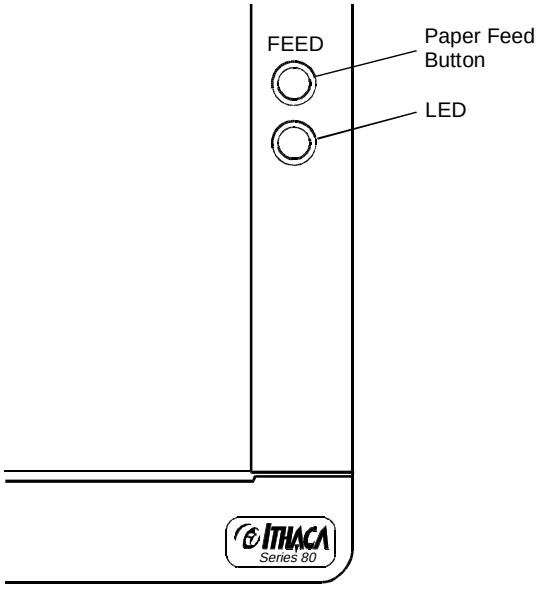
MAKING ADJUSTMENTS

The Model 80 does not require any adjustments for normal operation.

TESTING THE PRINTER

The Ithaca Series 80 Thermal Printer has the ability to print self- test printouts on power-up on command. The self- test prints a variety of information about operating settings and configurations.

OPERATING THE KEYPAD



Top of Printer

The keypad contains one button and one status LED for easy operation of the printer.

STATUS LED

There is a single status LED to display on- line and error conditions. The table below describes the types of error conditions possible and patterns that the LED will flash in those conditions.

IN ORDER OF PRECEDENCE

Error Condition Present	Graphical Representation	Verbal Description
Printer Not Configured	___▮_▮_▮_▮_▮____	(5 Quick Flashes)
Thermal Head Overheat	_▮▮▮▮▮▮▮▮▮▮▮▮_	(Rapid, Continuous)
Cutter Error	___▮_▮_▮_____	(3 Quick Flashes)
Cover Open	_▮_▮_▮_▮_▮_▮_	(Continuous)
Paper Out	___▮▮▮▮▮_____▮▮▮▮____	(Slow, Continuous)

Key to Graphical Representation:

- ▮ = LED IS ON for 0.5 Seconds
- ▮ = LED IS ON for 0.1 Seconds
- _ = LED IS OFF for 0.5 Seconds
- _ = LED IS OFF for 0.1 Seconds

BUTTONS

The printer includes one button that has the following function:

FEED Button

The FEED button advances receipt paper.

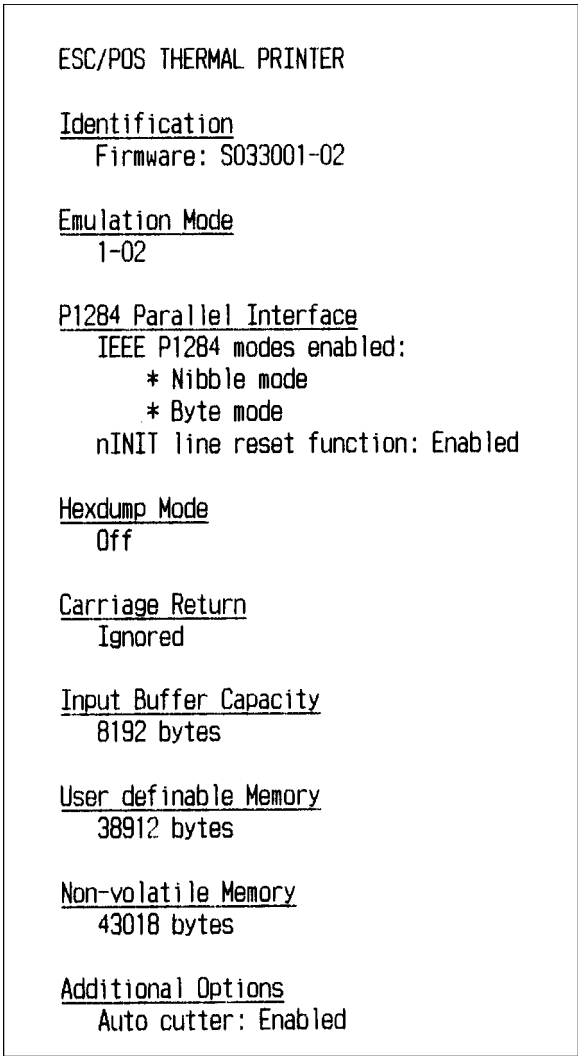
TEST THE PRINTER

You can test the printer to ensure that it is running properly. The sample on the following page shows what a printout of the test may look like. The test pattern varies depending on the printer model and the character set selected when the printer was ordered.

Note: Run the test after loading the paper, but before connecting the printer to a host system. If the characters don't print properly, check to make sure the paper is installed correctly.

If the printer is still not working correctly, contact your dealer or the Technical Support department at Ithaca Peripherals. For more information see “Contacting Ithaca Peripherals” on page 2.

1. Open the printer cover.
2. Plug the DC power cord from the external power supply into the printer.
3. Plug the AC power cord into the external power supply.
4. Plug the AC power cord into a grounded three- prong power socket.
5. The status LED will start flashing after approximately 1 ½ seconds.
6. Close the paper cover.
7. The printer will print some technical information.
8. To print some sample code pages, press the paper feed button.



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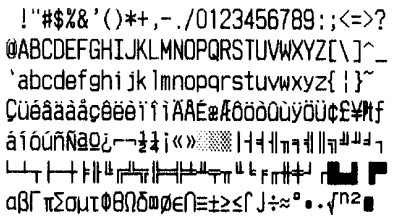

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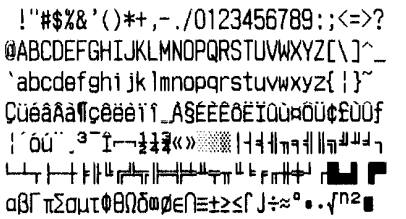

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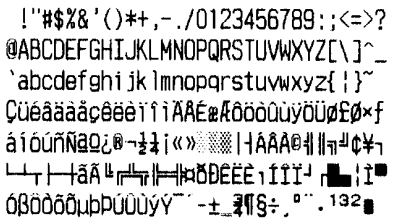

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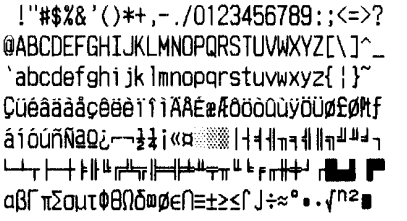
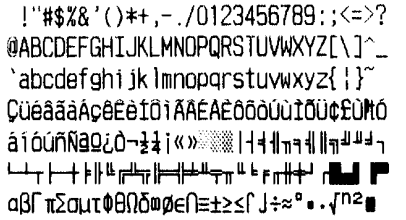


** TESTING COMPLETE **

CODE PAGE 860



These modes are described in the *PcOS Series 80 Programmer's Guide*. To order this book, see "Contacting Ithaca Peripherals" on page 2. If you have accidentally entered this menu mode, turn the printer off and then back on again.

ASSEMBLY/DISASSEMBLY

PRECAUTIONS FOR DISASSEMBLY

Before disassembling any part of the printer, be sure the power is turned off. Disconnect the external power supply, the communication cable, and the cash drawer cables.

Caution: The controller board can easily be damaged by static electricity. Observe ESD precautions, wear a grounded wrist strap and use a static mat or other protected work surface. Do not place the printed circuit boards directly on the printer or floor.

NECESSARY TOOLS

Caution: Using the wrong tools may cause personal injury or damage the printer. Be sure to use the proper tools when maintaining or servicing the printer.

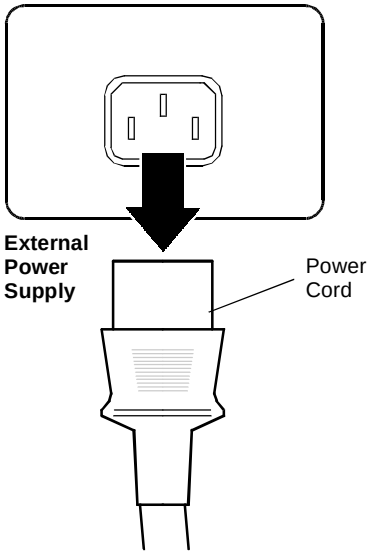
The following list provides the necessary tools to properly maintain the Series 80 Printer.

- Screwdrivers
  - #1 Phillips
  - #2 Phillips
- Hex Driver
  - .050 in.
- Miscellaneous
  - Small Needle-Nose Pliers
  - OHM Meter
  - Hammer
  - Small Punch

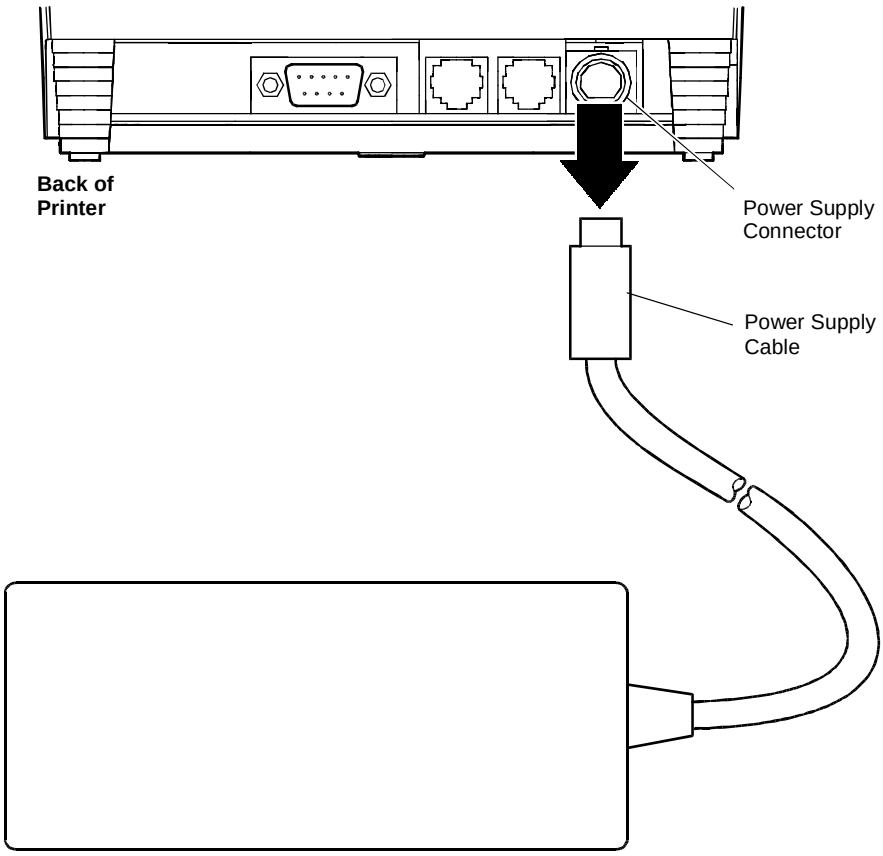
DISCONNECTING THE POWER CORD

Caution: The printer must be grounded through the three -prong power connector. DO NOT use any ground defeating adapter.

1. Unplug the power cord from the grounded three prong- power socket. The printer is off when the LED is no longer green.



2. Disconnect the power cord form the external power supply.



External Power Supply

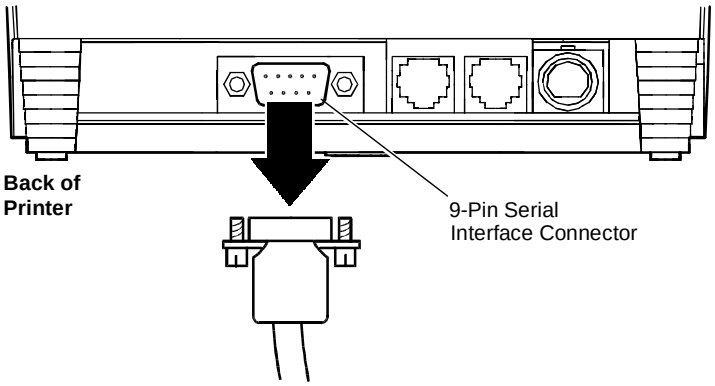
3. Disconnect the external power supply cable from the power supply connector located on the back of the printer.

DISCONNECTING THE COMMUNICATION CABLE

Depending on the interface your system uses, disconnect either the serial or parallel communication cable from the appropriate connector on the back of the printer.

Cables are provided by your dealer or the system installer. If cables are unavailable, contact Ithaca Peripherals. See “Contacting Ithaca Peripherals” on page 2

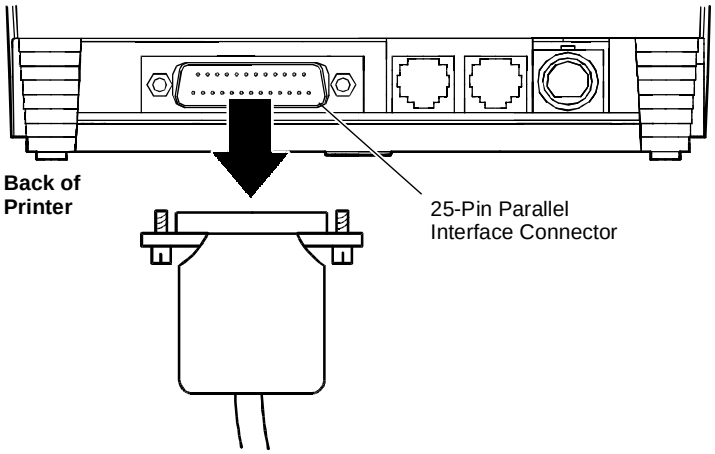
Disconnect the Serial Cable



1. Unplug the AC power cord from the grounded three- prong power socket and turn the host system or PC off.
2. Loosen the two mounting screws on each side of the cable connector located on the back of the printer.
3. Disconnect the 9-pin serial interface cable from the connector located on the back of the printer.

   Refer to the page 10 for information on the serial cable requirements.

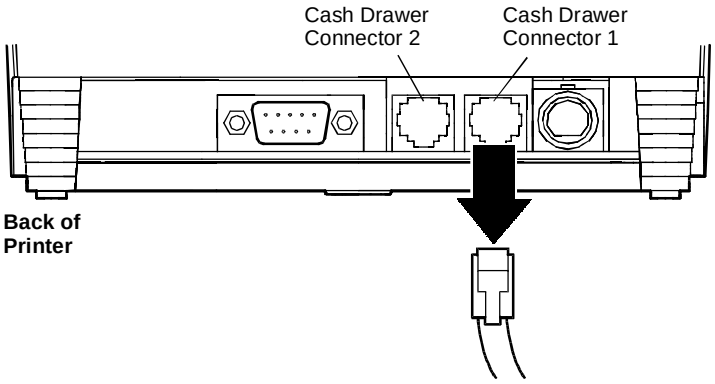
Disconnect the Parallel Cable



1. Unplug the AC power cord from the grounded three- prong power socket and turn the host system or PC off.
2. Loosen the two mounting screws on each side of the cable connector located on the back of the printer.
3. Disconnect the 25-pin parallel interface cable from the connector located on the back of the printer.

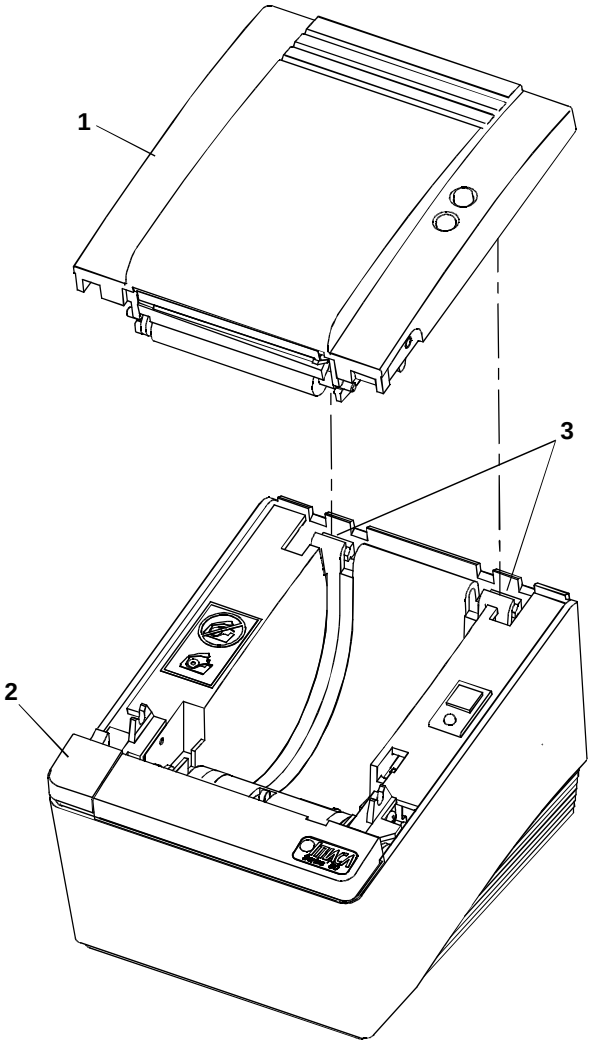
   Refer to the page 12 for information on the parallel cable requirements.

DISCONNECTING THE CASH DRAWER CABLES



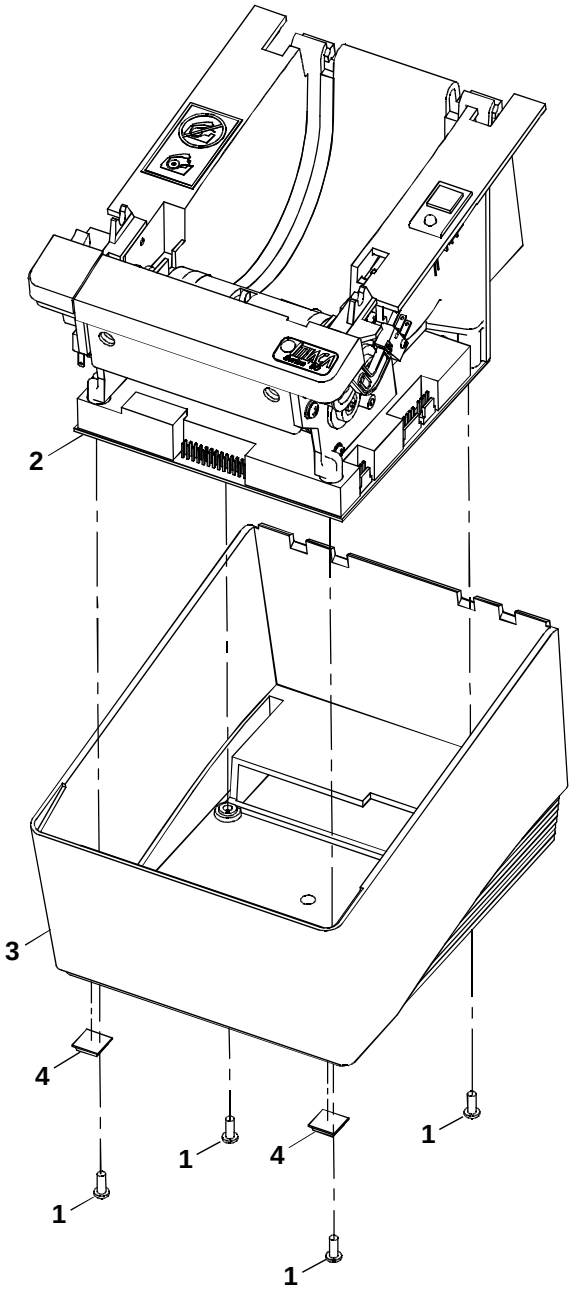
1. Unplug the AC power cord from the grounded three- prong power socket.
2. Disconnect the cash drawer cable from the connectors located on the back of the printer.

REMOVING THE COVER ASSEMBLY



1. Open the cover assembly (1) by pressing down on the cover latch button (2) and lifting the cover assembly until it is fully open.
2. Grasp the cover assembly (1) firmly and lift up slightly to the right until it snaps free from the inner housing hinges (3).

REMOVING THE OUTER HOUSING

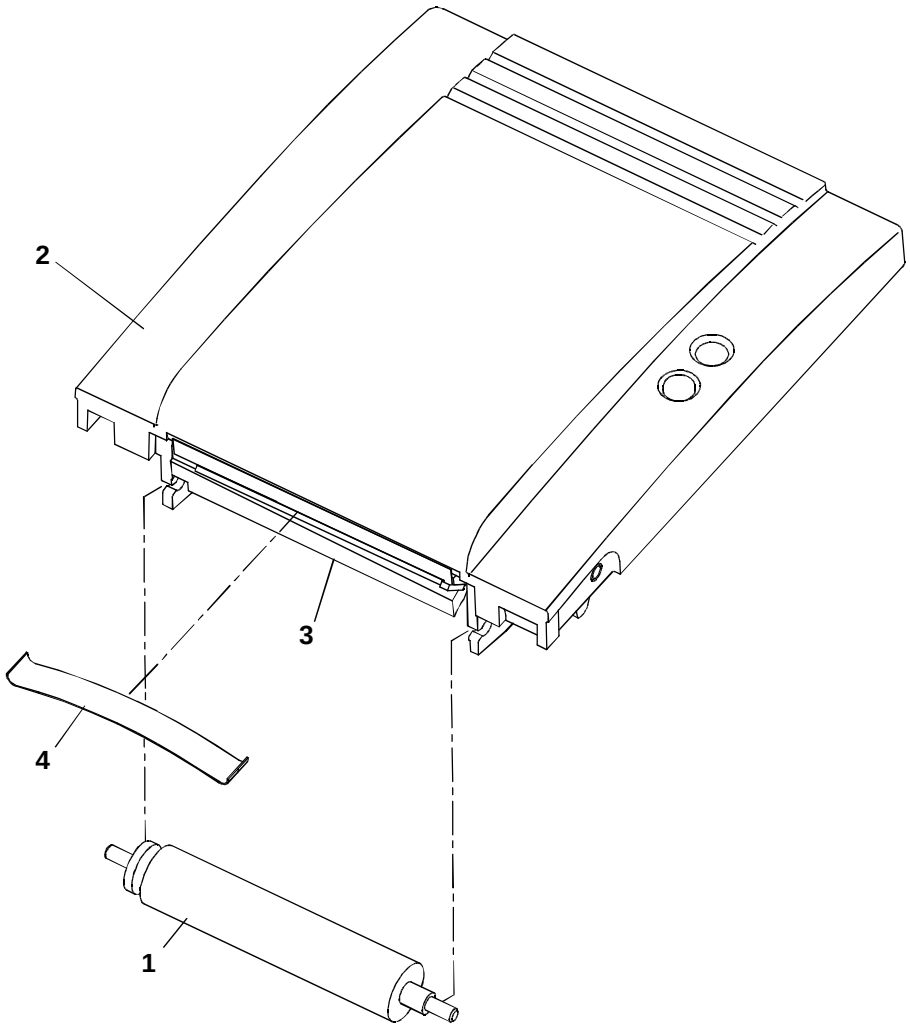


1. Remove the cover assembly (see page 26).
2. Turn the printer over.
3. Unscrew the four Phillips screws (1) holding the inner housing (2) to the outer housing (3).
4. Lift the printer (2) straight out of the outer housing (3).

Note replacing the Outer Housing

If you are replacing the outer housing (3), place two new rubber feet bumpers (4) into the two inserts located on the bottom near the front of the printer.

DISASSEMBLE THE PLATEN



1. Remove the cover assembly (see page 26).
2. Unsnap the platen/gear assembly (1) from the cover assembly (2).

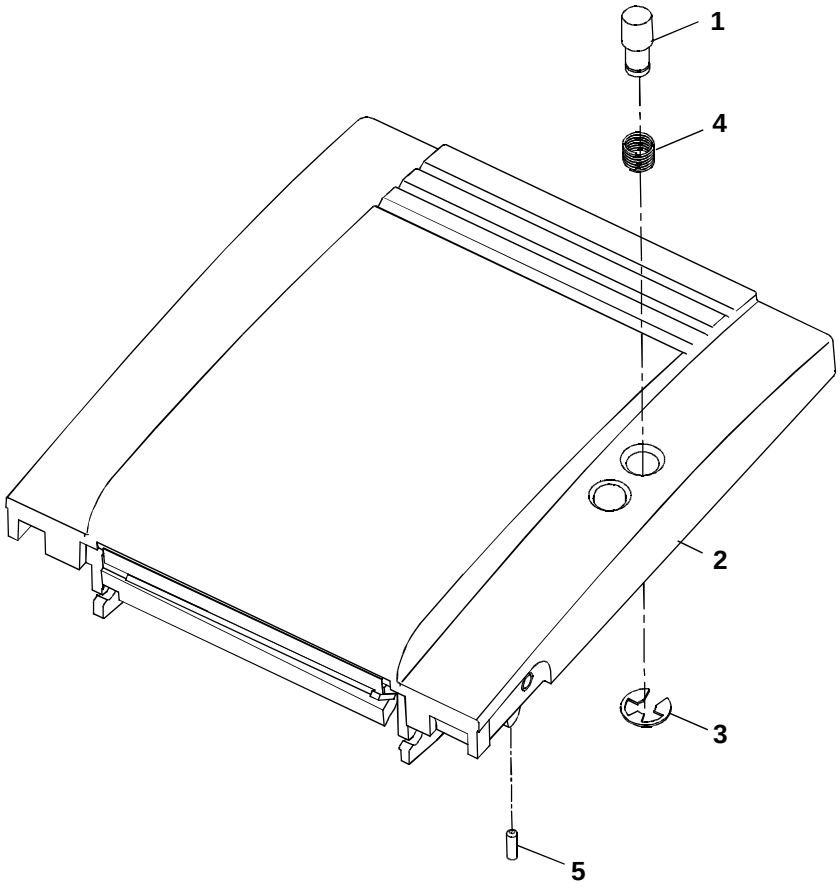
Note: The cutter assembly (3) will hinge forward loosening the cutter spring (4). Be careful not to lose it.

3. Remove the cutter spring (4).

Note on reassembling

Be sure to place the cutter spring (4) in the slot located in the top of cutter assembly (3) and push up. Insert the platen/gear assembly (1), under the cutter assembly and push up until it can be snapped into the cover assembly (2).

DISASSEMBLE THE COVER



1. Remove the cover assembly (see page 26).
2. Remove the outer housing (se page 27).
3. Release the paper feed button (1) from the cover assembly (2) by removing the retaining ring (3).

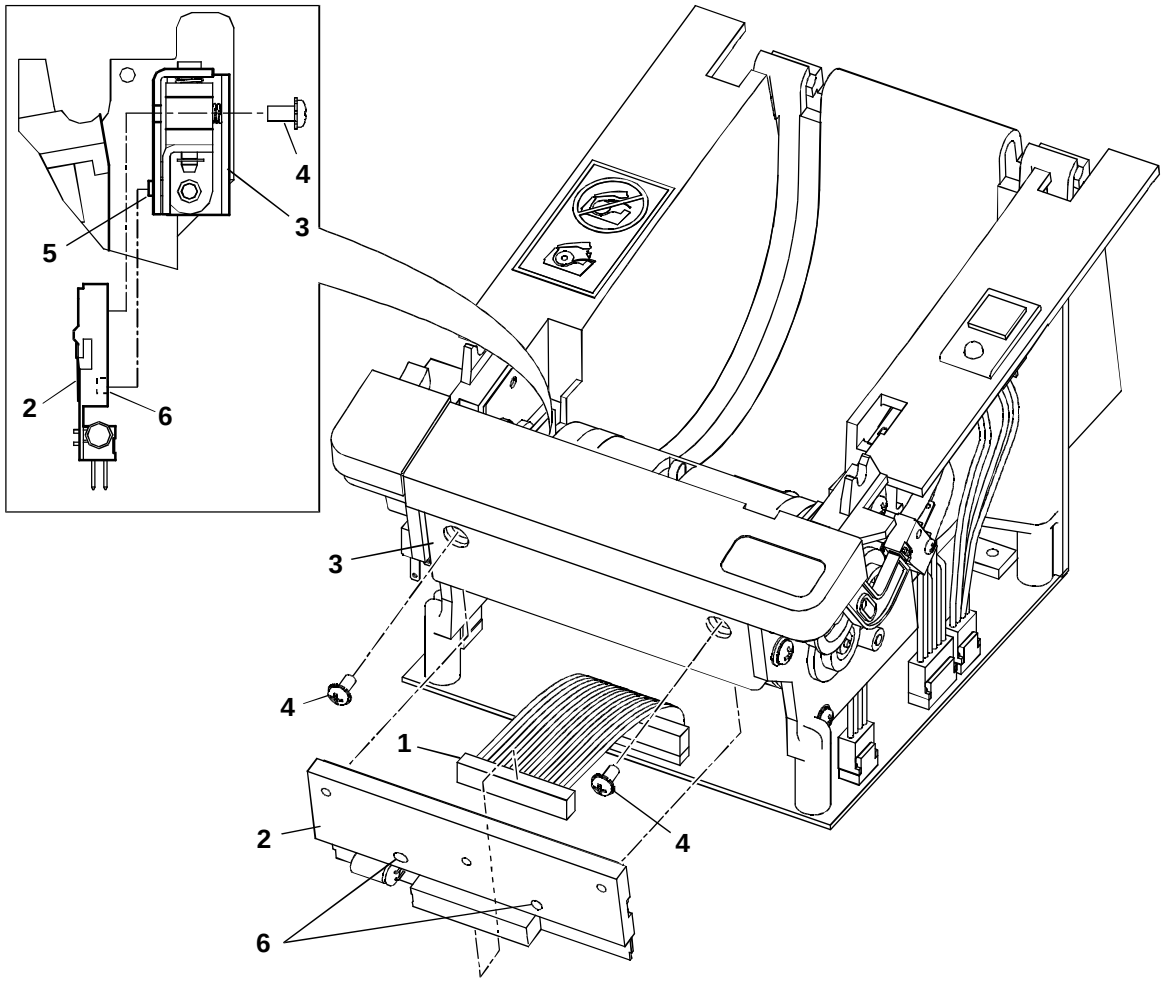
Note: Hold the button in place in order to avoid the compression spring (4) and button from flying out.

4. Remove the compression spring (4) from the cover assembly (2).
5. Unscrew the 4-40 set flat socket screw (5) using a .050 in. hex driver.

Notes on Installing the Cover and Adjusting the Cover Open Switch

1. Use a .050 in. hex driver to insert a 4-40 set flat socket screw (5) into the cover assembly, at its correct location. Refer to above illustration. Before inserting the set screw, apply Loctite 425 to the set screw threads. Insert the screw until only two or three threads are visible.
2. Snap the cover assembly into the hinges. Close the cover.
3. The switch is wired normally open in series with the cover lever switch which is also normally open. Connect an ohmmeter across the black and white wires, positions 3 and 4 on the six pin wire harness connector (J6). The cover lever switch must be closed in order for the ohm meter to register the closing of the cover open switch. As you turn the set screw counterclockwise, the switch will actuate and the meter reading will switch from open circuit to a very small resistance. Turn the set screw an additional ¾ turns (270º).

REPLACING THE PRINTHEAD

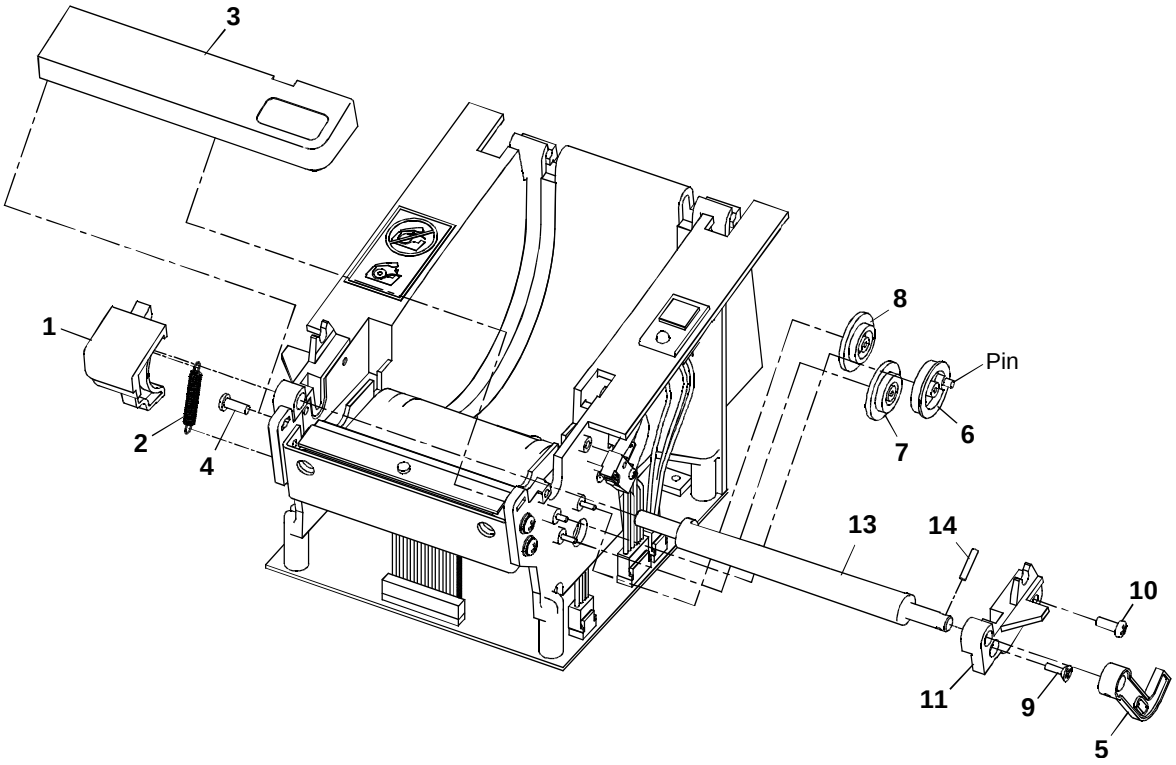


1. Remove the outer housing (see page 27).
2. Disconnect the ribbon cable assembly (1) from the thermal printhead (2).
3. Insert a Phillips screwdriver through the two holes located in the front of the printhead bracket (3). Unscrew and remove the two Phillips screws (4) from the thermal printhead (2).
4. Lower the thermal printhead (2) until it is free from the printer (3).

Note on installation

When installing the thermal printhead (2), be sure to properly align the printhead alignment slots (6) with the pins (5) in the printer before installing the two Phillips screws (4).

REPLACING THE CUTTER



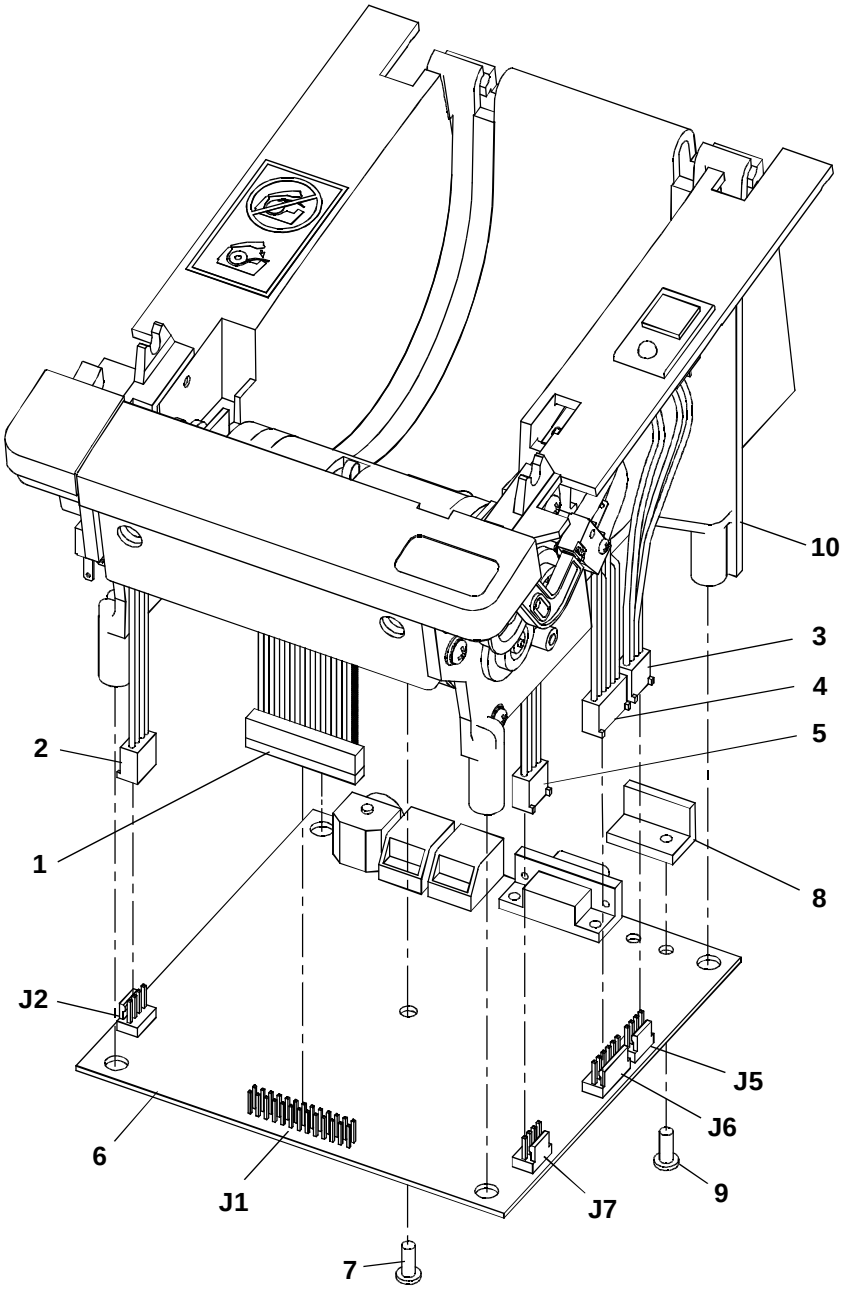
1. Remove the outer housing (see page 27).
2. Slide the cover lever/ pin assembly (1) to the left beyond the cutter shaft. Detach the extension spring (2) from the pin on the inner housing and the pin on the cover lever.
3. Remove the bezel (3) by removing the Phillips screw (4) and slide the bezel to the right until it is released.
4. Remove the spring pin (5) by carefully tapping it out of the cutter lever (6) and the round cutter (13) with a hammer and small punch.
5. Slide the cutter lever (5) off the end of the round cutter (13).
6. Remove the three gears (36/18 gear (7), 24 tooth gear (6), and 45/24 tooth gear (8)) from the outer housing.
7. Unscrew the Phillips flathead screw (9) and the Phillips screw (10) and remove the right end block (11) from the outer housing.

8. Slide round cutter (13), to the right until it is free from the inner housing assembly.

Notes on the Right End Block

Attach the right end block (11) with the Phillips flathead screw (9) towards the front of the printer

REMOVING THE CONTROLLER BOARD ASSEMBLY



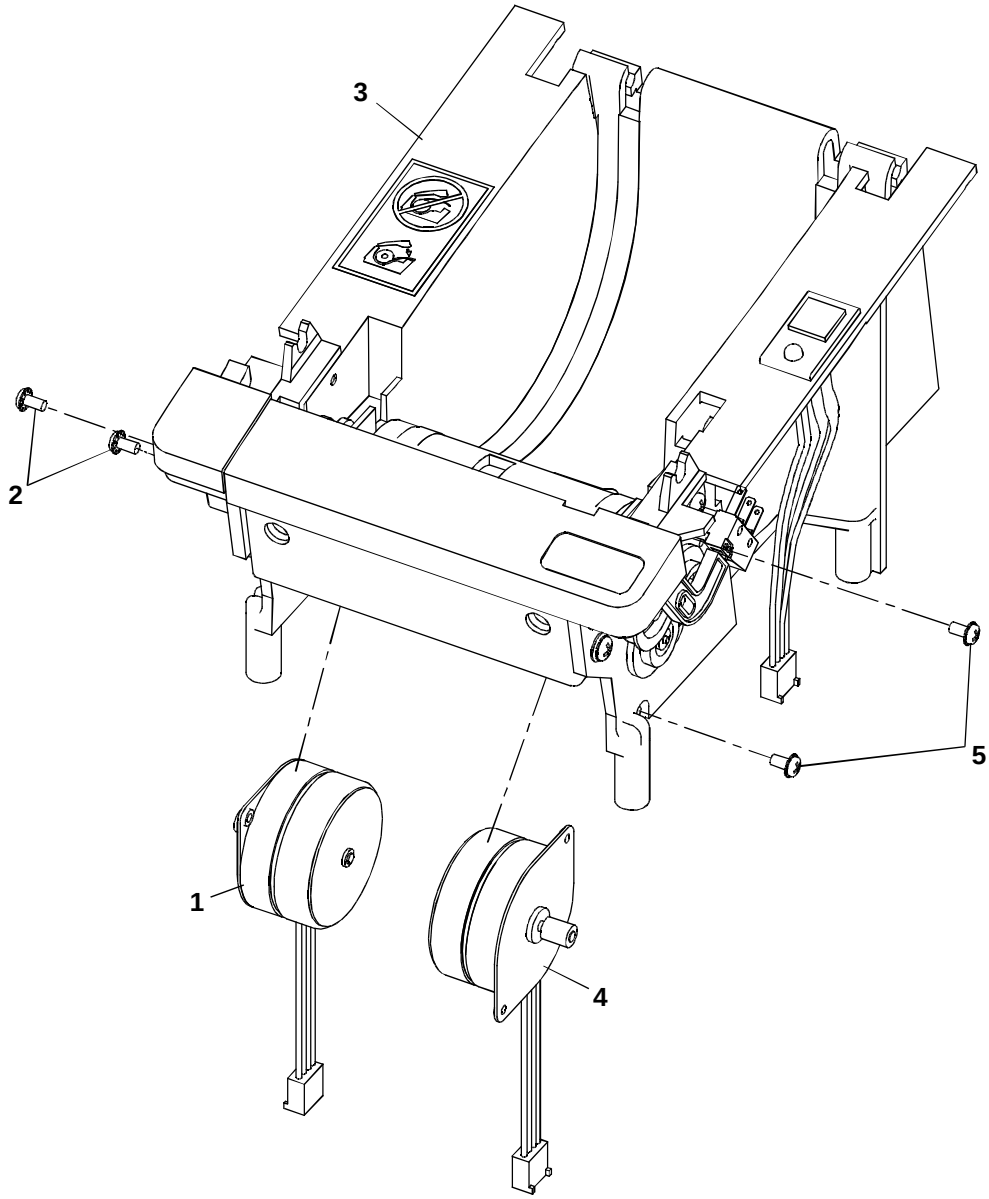
1. Remove the outer housing (see page 27).
2. Disconnect the connectors (1, 2, 3, 4, 5) from the controller board (6). See the below chart for connector locations.
3. Turn the printer over. Unscrew the Phillips screw (7) holding the controller board (6) to the outer housing (10).

Notes on Replacing the Controller Board Assembly (9 PIN Communication Connector Only):

1. When replacing the controller board (6), remove the board spacer (8) from the old board and attach it to the new controller board. The spacer is held on the controller board by one Phillips screw (9).

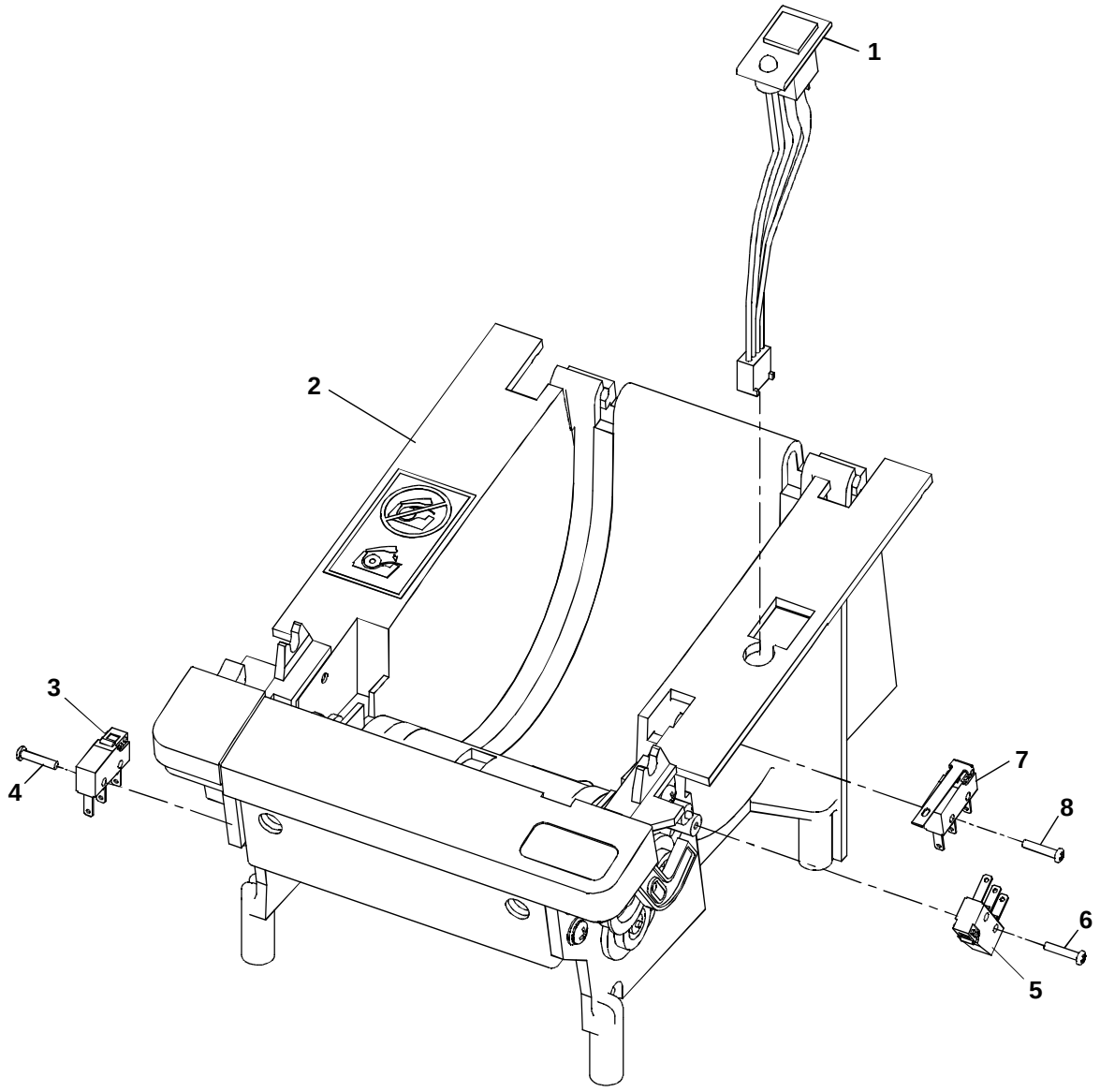
Connector/Harness	Controller Board Location
Ribbon Cable Assembly	J1
Paper Feed Stepper Motor Cable	J2
Switch and LED Assembly Harness	J5
Switch Wire Harness	J6
Cutter Stepper Motor Cable	J7

REPLACING THE STEPPER MOTORS

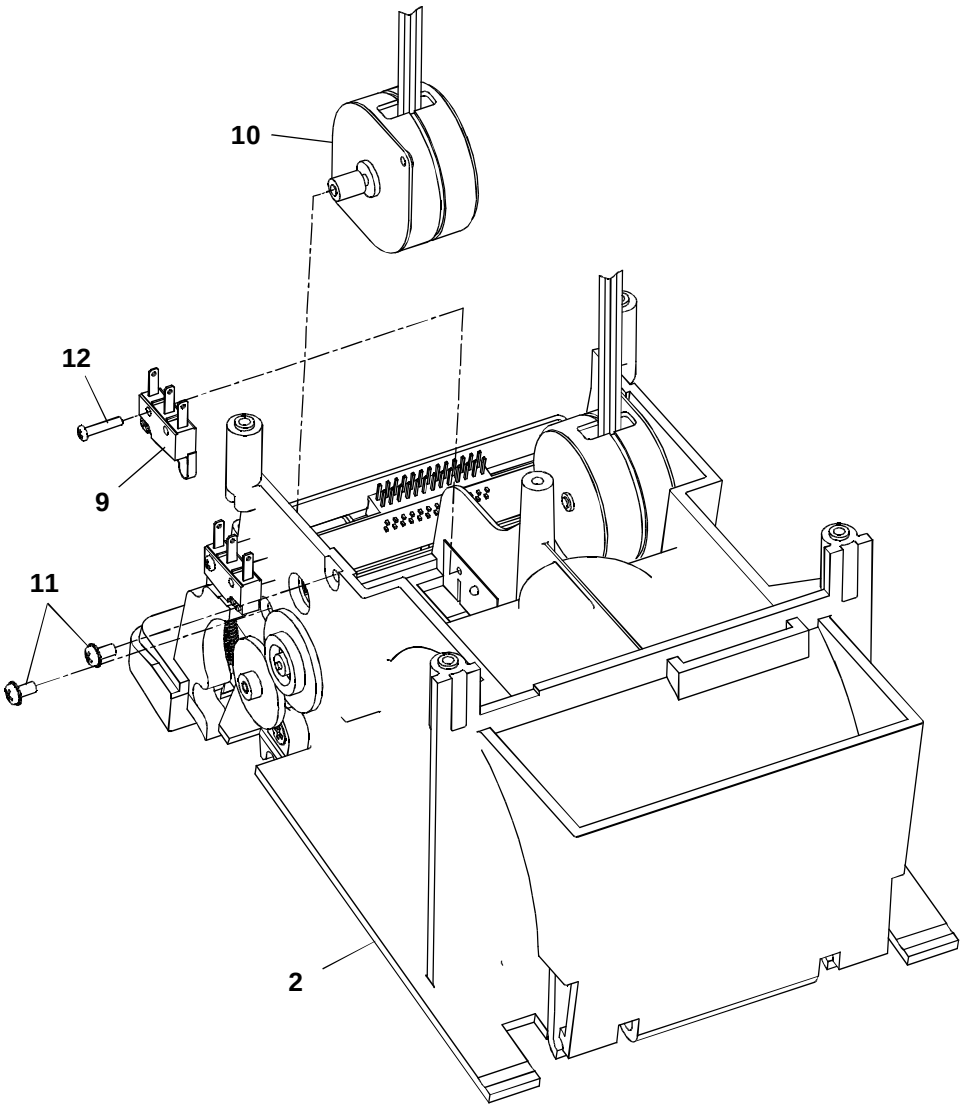


1. Remove the controller board assembly (see page 35).
2. Remove the paper feed stepper motor (1). Unscrew the Phillips screw (2) holding the paper feed stepper motor to the outer housing (3).
3. Remove the cutter stepper motor (4). Unscrew the two Phillips screws (5) holding the cutter stepper motor to the outer housing (3).

REPLACING THE SENSORS AND KEYBOARD ASSEMBLY

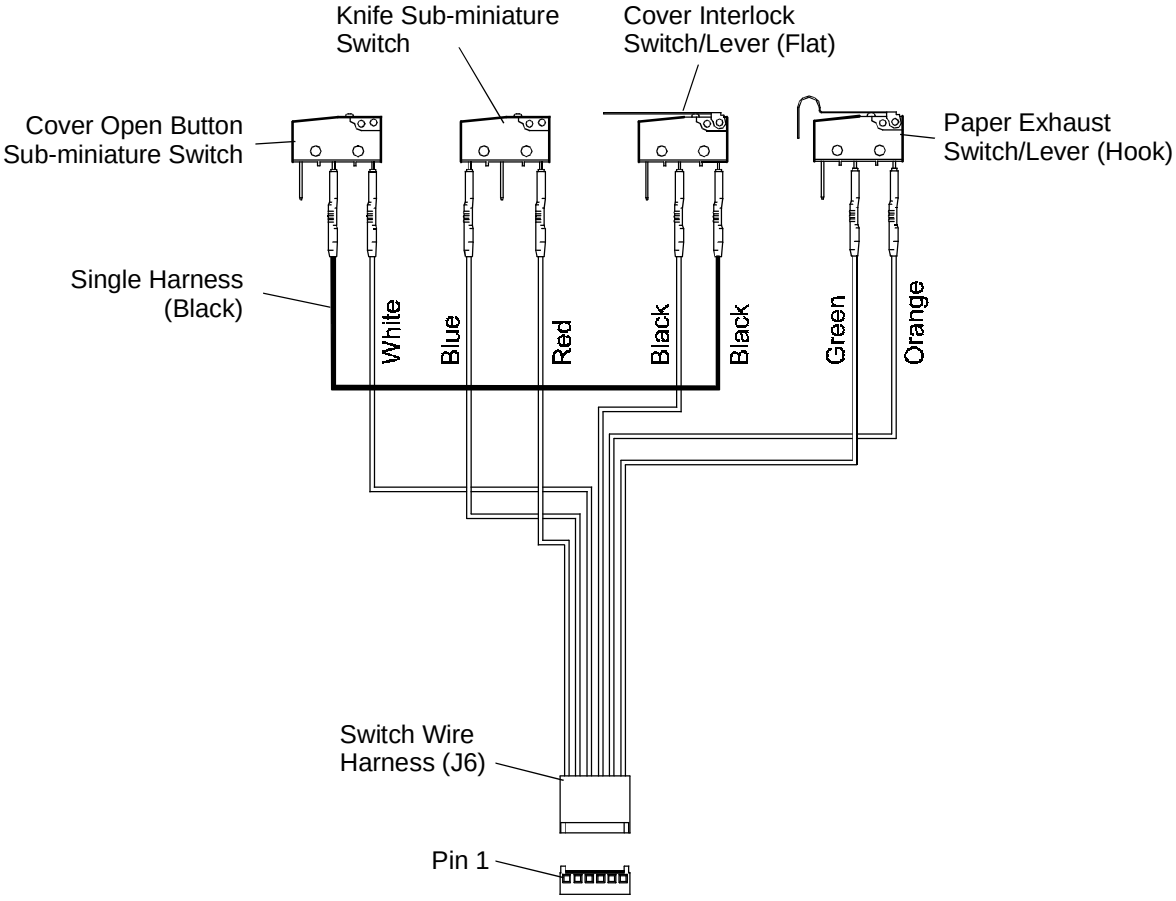


1. Remove the controller board assembly (see page 35).
2. Remove the keypad assembly (1) from the inner housing (2) by pushing the keypad up though the hole in the inner housing.
3. To remove the cover open button sub-miniature switch (3), unplug the black single harness wire and the white wire of the switch wire harness from the tabs on the switch. Unscrew the screw (4) holding the switch to the inner housing (2).
4. To remove the knife sub-miniature switch (5), unplug the blue and the red wires of the switch wire harness from the tabs on the switch. Unscrew the screw (6) holding the switch to the inner housing (2).
5. To remove the cover interlock switch\flat lever assembly (7), unplug the black single harness wire and the black wire of the switch wire harness from the tabs on the switch. Unscrew the screw (8) holding the switch to the inner housing (2).



6. To remover the paper exhaust switch/hook lever assembly (9), you must first remove the paper feed motor (10), refer to page 37. Unplug the green and orange wires of the switch wire harness from the tabs on the switch. Unscrew the screw (12) holding the switch to the inner housing (2).

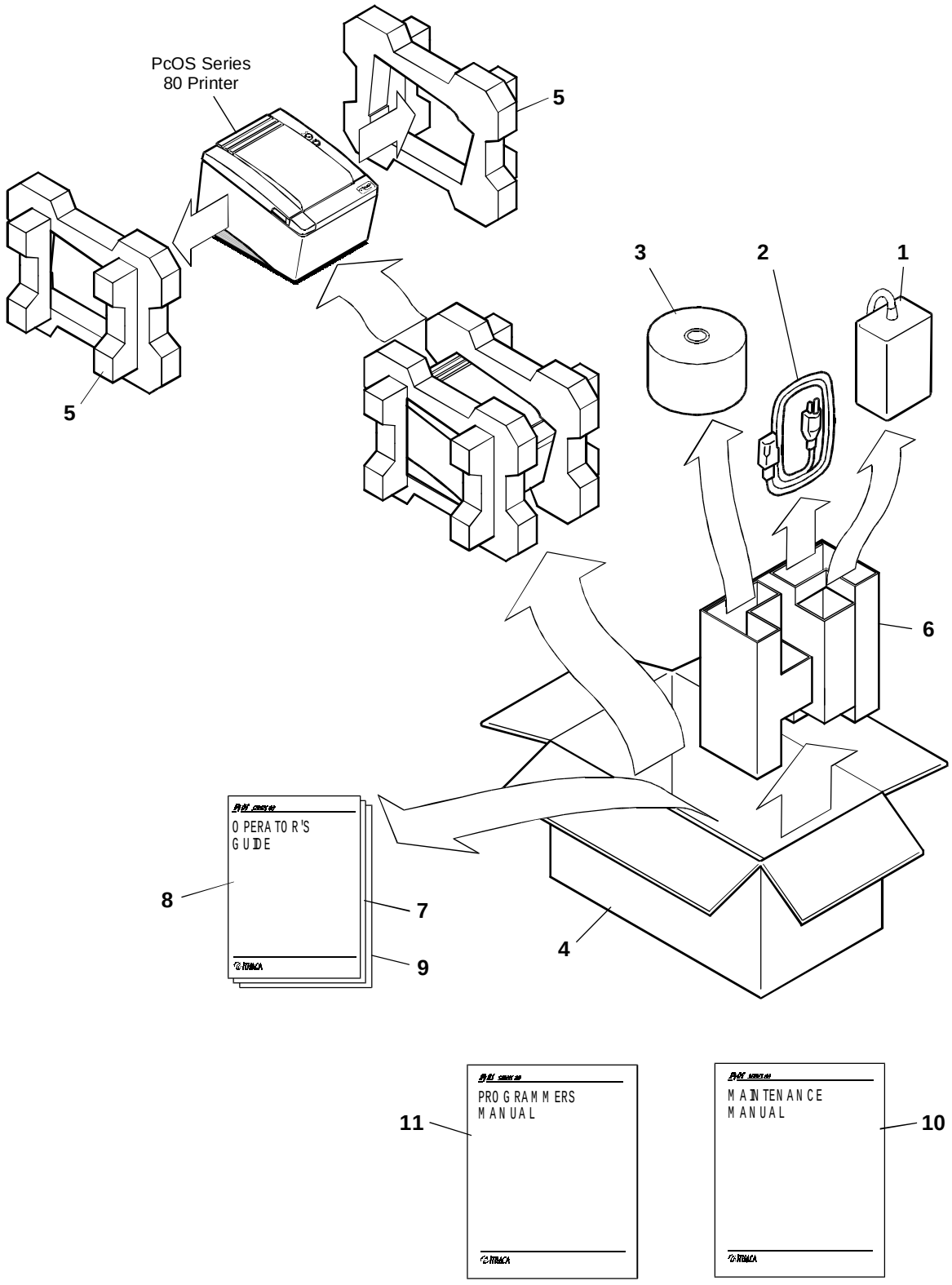
Note on installation



Refer to the above diagram for the correct switch connectors.

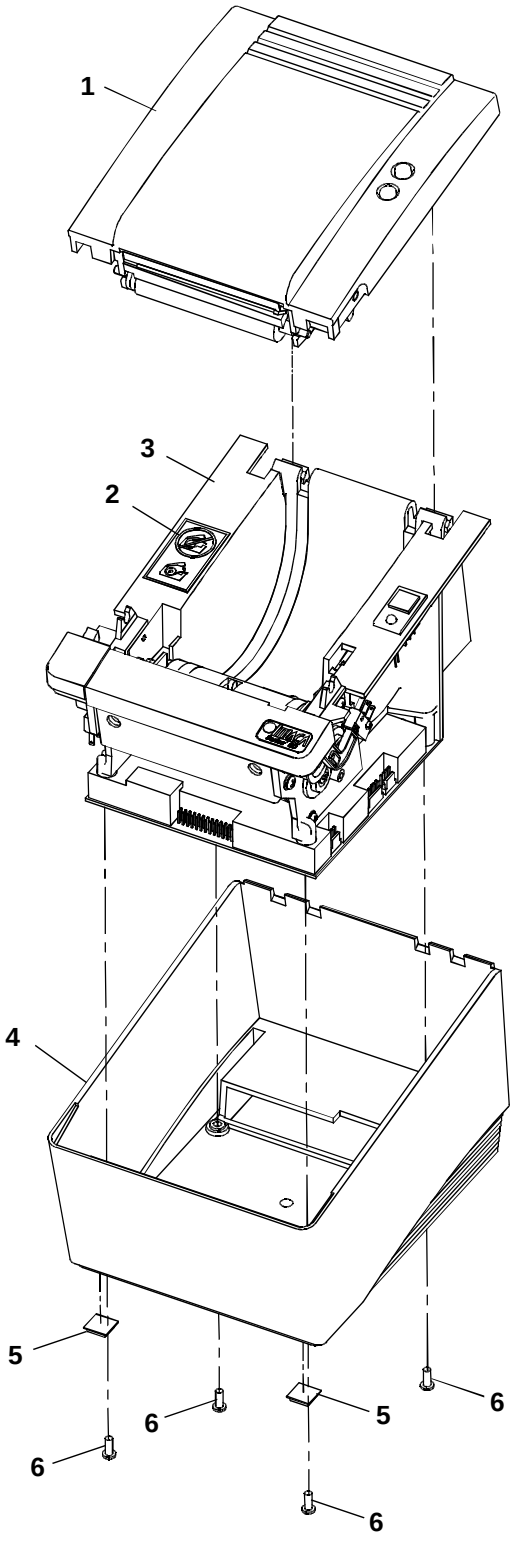
APPENDIX A: PARTS LISTS

UNPACKING THE PRINTER



ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	80-01045	1	Supply-M80PLUS
1	80-01046	1	Supply-M80
2	06-0561	1	Cord-110V Power
2	06-0806	1	Cord-230V 10A
2	98-1162	1	Cord-220V AUST
2	98-2173	1	Cord-230V INDI
2	98-7891	1	Cord-UK 240V Power
2	80-01101	1	Cord-M80 110V
3	80-01047	1	Roll-Small Thermal
4	80-01036	1	Carton-M80 ITH
4	80-01055	1	Carton-M80 WHI
4	80-01039	1	Carton-M80 OKI
5	80-01056	1	Foamset-M80
6	80-01100	1	Insert-Packset
7	80-01076	1	Form-M80 Supplies
8	80-9113	1	Guide-M80 Operator’s Guide
9	91-045	1	Sheet-Warranty
10	80-9408	1	Maintenance Manual
11	100-9175	1	Programmer Manual

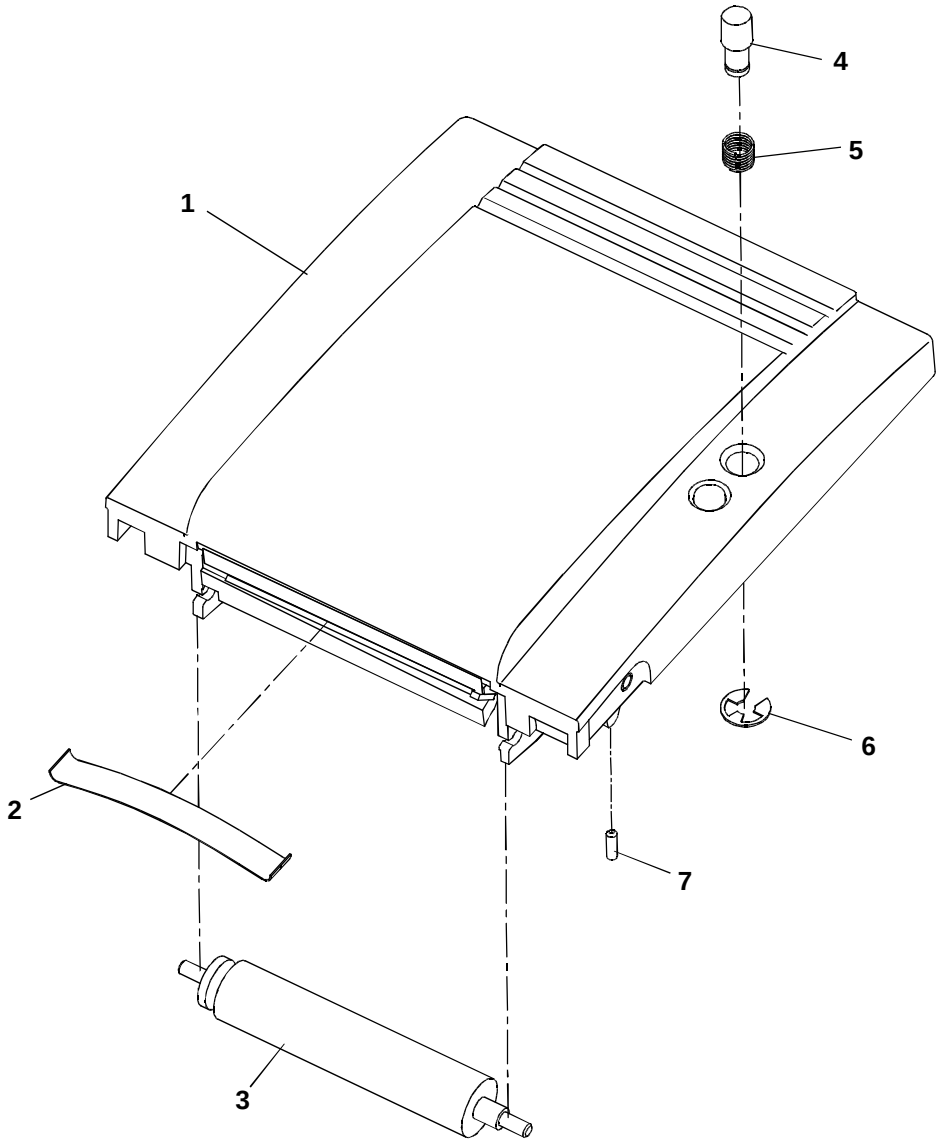
PRINTER ASSEMBLY



ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	R80-00035	1	Assembly-M80 Cover (No Platen)
2	R80-00030	1	Label-M80 Paper Load
3	R80-00031	1	Assembly-M80 Inner Housing*
4	R80-00034	1	Housing-M80 Outer
5	R80-00032	2	Bumper-M80 Rubber Feet
6	R80-00033	4	Screw #6-18 x 3/8 PHPS Tap

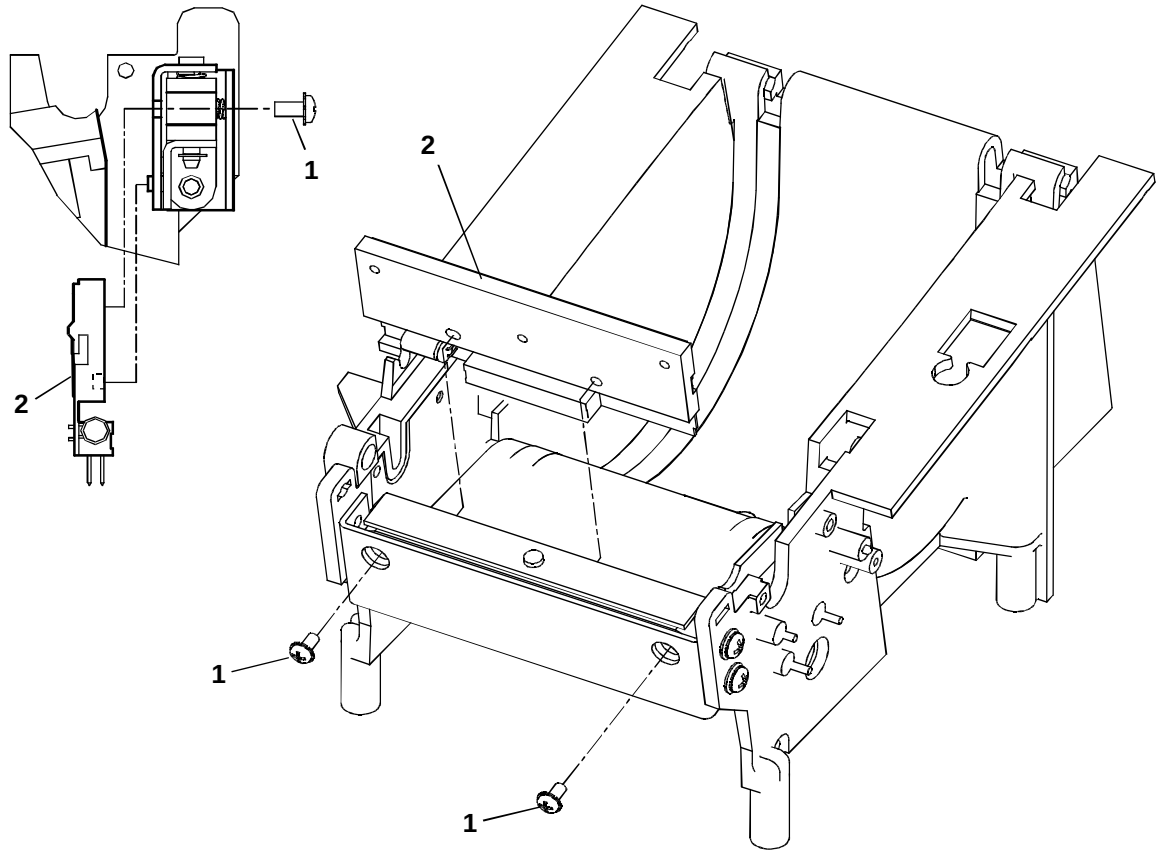
* Order Item 2, Label-M80 Paper Load when ordering Item 3, Assembly-M80 Inner Housing

COVER AND PLATEN



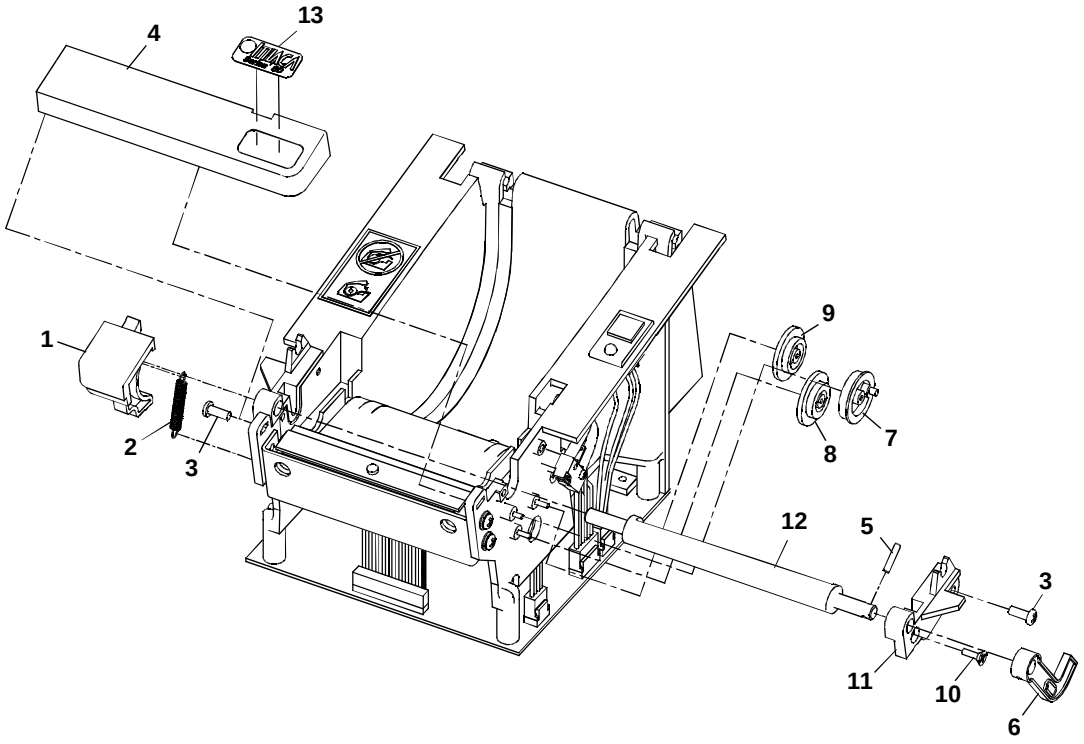
ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	R80-00035	1	Assembly-M80 Cover (No Platen)
2	R80-00005	1	Spring-M80 Cutter
3	R80-00006	1	Assembly-M80 Platen/Gear
4	R80-00001	1	Button-M80 Paper Feed
5	R80-00002	1	Spring-M80 Compression
6	520-9800006	1	Ring-M80 Retaining
7	R80-00004	1	Screw-#4-40 x 3/8 Socket

PRINTHEAD



ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	R80-00026	2	Screw-M3 x 6 mm PHPS SEMS
2	R80-00008	1	Printhead-M80 Thermal

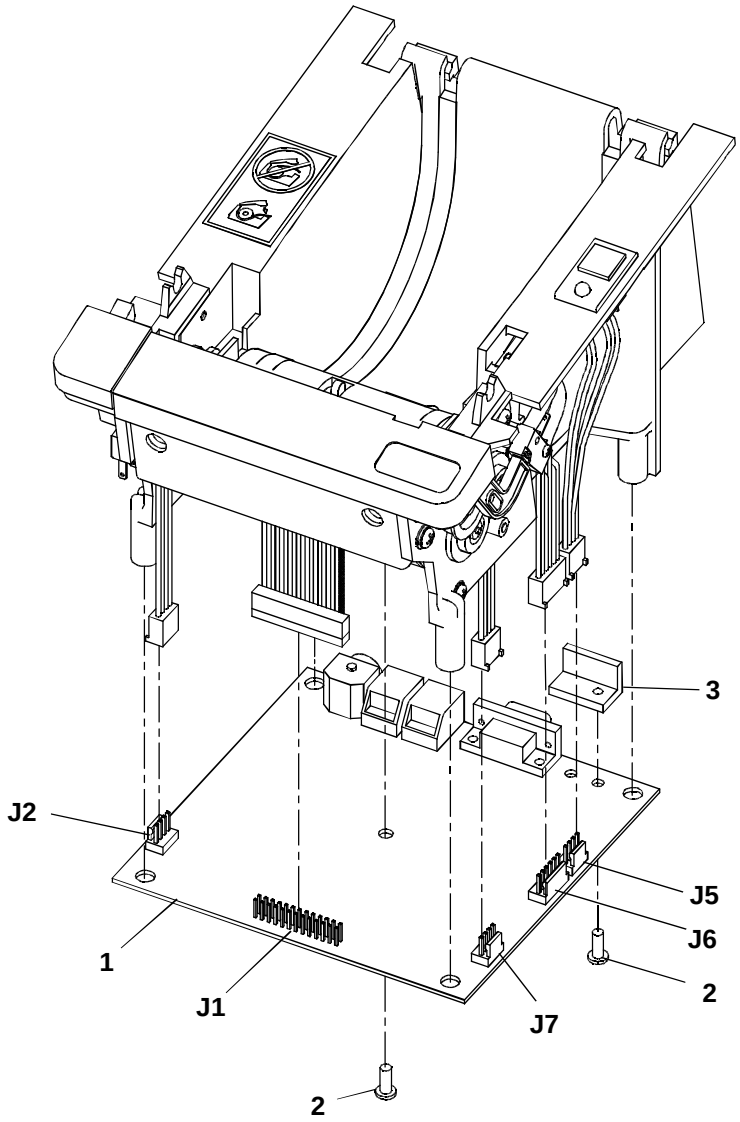
CUTTER



ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	R80-00027	1	Assembly-M80 Cover Lever/Pin
2	R80-00024	1	Spring-M80 Extension
3	R80-00033	2	Screw #6-18 x 3/8 PHPS Tap
4	R80-00028	1	Bezel-M80*
5	R80-00010	1	Pin-M80 Spring
6	R80-00017	1	Lever-M80 Cutter
7	R80-00016	1	Gear-M80 24 Tooth
8	R80-00015	1	Gear-M80 36/18 Tooth
9	R80-00014	1	Gear-M80 45/24 Tooth
10	R80-00000	1	Screw-#6-18 x 3/8 PHPS
11	R80-00019	1	Block-M80 Right End
12	R80-00011	1	Cutter-M80 Round
13	R80-01078	1	Label, Ithaca
13	R80-01078	1	Label, UTC
13	R80-01080	1	Label, OKI - Europe
13	R80-9401		Label - Okidata

* Order Item 13, Label - Ithaca, Label - UTC, Label, OKI - Europe or Label - Okidata, when ordering Item 4, Bezel - M80

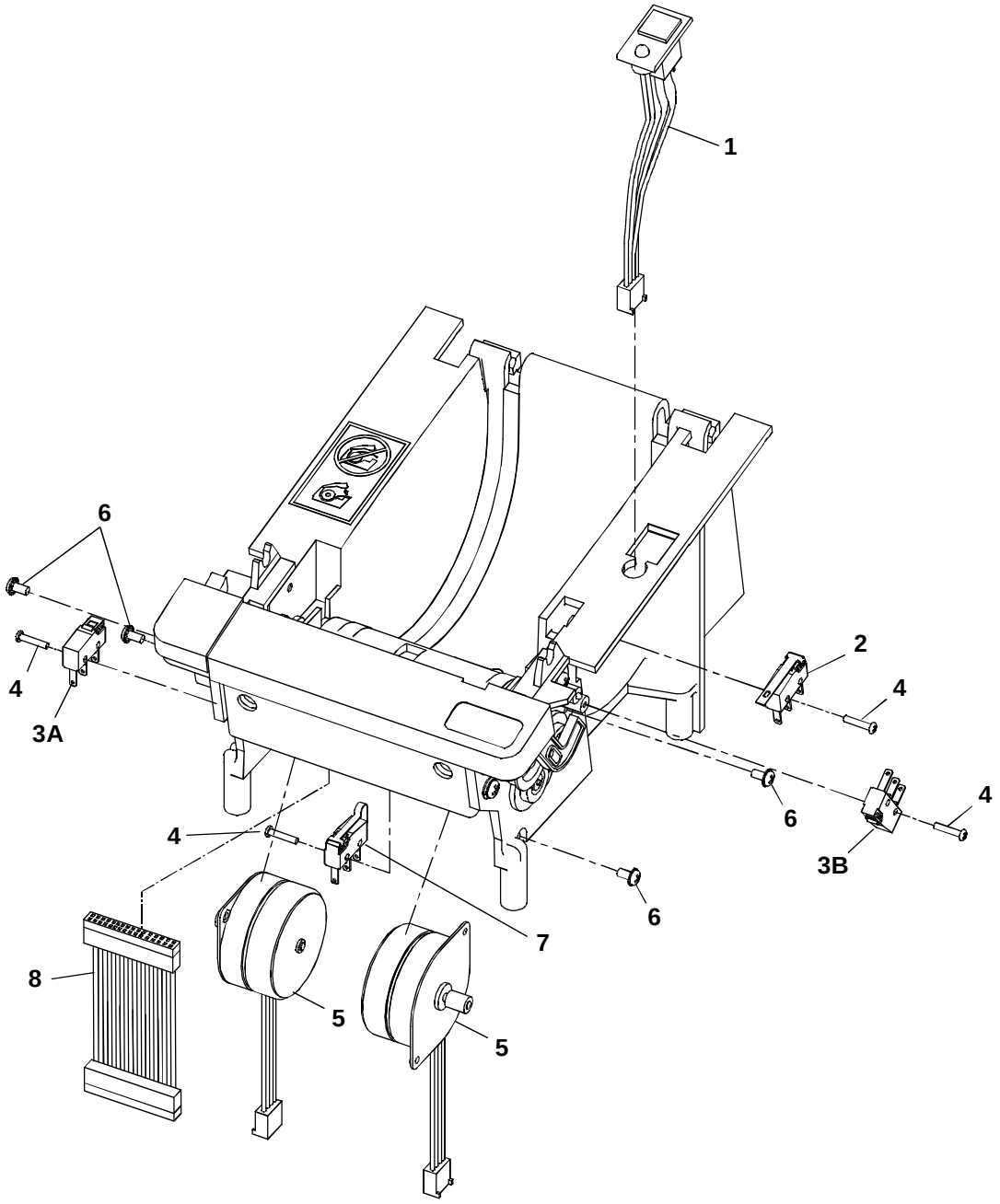
CONTROLLER BOARD



ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	R80-00012	1	Assembly-M80 Controller PCB
2	R80-00033	2	Screw-#6-18 x 3/8 PHPS TAP
3	R80-00013	1	Spacer-M80 PCB

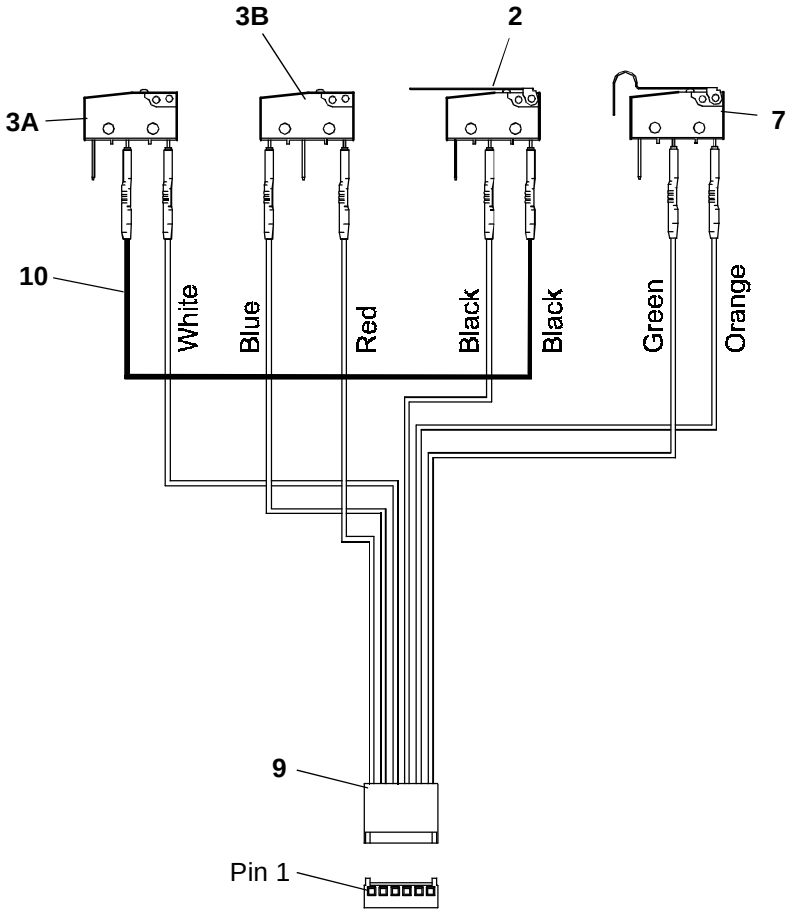
Controller Board Location	Connector/Harness
J1	Ribbon Cable Assembly
J2	Paper Feed Stepper Motor Cable
J5	Switch & LED Assembly Harness
J6	Switch Wire Harness
J7	Cutter Stepper Motor Cable

MOTORS AND SWITCHES



ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	R80-00021	1	Assembly-M80 Switch/ LED
2	R80-00018	1	Assembly-M80 Switch/Lever (Flat)
3A	R80-00025	1	Switch-M80 Sub-Miniature
3B	R80-00025	1	Switch-M80 Sub-Miniature
4	R80-00022	4	Screw-#2-28 x 7/16 Tap
5	R80-00020	2	Motor-M80 Stepper
6	R80-00026	4	Screw-M3 x 6 mm PHPS SEMS
7	R80-00009	1	Assembly-M80 Switch/Lever (Hook)
8	R80-00029	1	Assembly-M80 Ribbon Cable

SWITCH WIRING DETAIL



ITEM NO.	PART NO.	QTY.	DESCRIPTION
2	R80-00018	1	Assembly-M80 Switch/Lever (Flat)
3A	R80-00025	1	Switch-M80 Sub-Miniature
3B	R80-00025	1	Switch-M80 Sub-Miniature
7	R80-00009	1	Assembly-M80 Switch/Lever (Hook)
9	R80-00023	1	Assembly-M80 Wire Harness
10	R80-00007	1	Assembly-M80 Wire Harness (Single)